VOL. 9
NO. 1

THE BRICKBVILDER

JAN.
1900

H. F. B.

THE BRICKBUILDER.

PUBLISHED MONTHLY BY

ROGERS & MANSON,

85 Water Street, Boston, Mass. . . P. O. Box 3282.

Entered at the Boston, Mass., Post Office as Second Class Mail Matter, March 12, 1892.

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Subscription price, mailed flat to subscribers in the United States and Canada	$5.00 per year
Single numbers	50 cents
To countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE.

For sale by all newsdealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING.

Advertisers are classified and arranged in the following order: —

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Advertisements will be printed on cover pages only.

HAPPY NEW YEAR.

THE BRICKBUILDER with this number presents to its readers a new leaf in its history, and one which we believe will prove satisfactory to those who have supported us in the past. It has been our aim to make of THE BRICKBUILDER an architectural journal, which, while considering to the fullest extent the practical sides of the particular form of construction which we specially represent, shall bring out the artistic possibilities of the material which is so abundantly at the hand of man for building operations.

Of the changes made, they best speak for themselves, and we can only hope that in them may be recognized a desire on our part to send forth an architectural publication which shall be second to none.

THE MAN IN THE STREET.

IT is often assumed that if architects' work were to be judged by architects, or at least by those who have had some training in the subject, there would be more incentive to study design, and the conditions would tend to better work. The judgment of the casual passer-by, who views the results of architecture from the standpoint of the street, is something which is very often looked upon with scorn by the average architect; and yet, after all, the influence of the uneducated is undoubtedly quite often a very potent restraining factor in architectural design. If we could all do things in just the way that seemed to us best, and our judgment were not subjected to revision by the unsentimental and usually sternly unsympathetic casual observer, it is really a question whether the results would not be as unsatisfactory to ourselves as they are sometimes now when we suffer from the manifestly unjust criticism of those who really know nothing about architecture. As a matter of fact, the architect is very seldom able to push himself much ahead of the average of his generation and his surroundings, and it is doubtful whether the kind of work which did not have some element in it appealing to the average man would not be very likely to be carried to an extreme beyond good taste. Some one has defined a great art work as one which appeals to the greatest variety and number of people. In this sense, a façade which pleases only the educated and highly cultivated few, but is not to the liking of the mass, might be open to serious question as to whether it possessed the elements of real greatness. It is certainly possible to so design a building that it shall appeal both to the educated and to the highly developed. A structure which fully serves its purpose, which awakens a responsive chord in the mind of the trained architect and also engages the attention, develops the thought of the honest mechanic, is surely of the kind which we should all be glad to produce, and it stands to reason that it presents a combination that is quite possible of realization.

BRICK ARCHITECTURE IN THE EAST.

A NUMBER of years ago there appeared in some of the architectural journals illustrations of a series of college buildings which were being erected in one of the lesser East Indian States, from the design of a well-known English architect, in which brick and terra-cotta were used in a highly successful manner to carry out the motives and forms of the native architecture. The attempt to make architecture indigenous rather than imported is altogether praiseworthy, and such an example might with benefit be followed in our own possessions in the far East. If we may judge by the designs which were published in *Harper's Weekly* for a cold storage warehouse it is proposed to erect at Manila by the United States Government, the possibilities of Philippine architecture have not yet been very much considered. The temptation to build an Ecole des Beaux Arts Palace on the shores of the Passig River was too great to be resisted. We hope the time will never come when the whole world will use the same style of architecture. That would imply the inevitable death of true art, for it would mean the quenching of individuality, the stifling

of attempts to observe local necessities and express the same in design, and the absence of individual initiative. The design for the storage warehouse is an excellent one of its kind, and if it were located in Kansas City or on the banks of the Seine we should feel like rejoicing with the happy architect who received the commission, but though architecture in Manila is undoubtedly a very shadowy substance, it is possible for a man with the right architectural endowment to create a building which shall not be merely a transplanted structure, but shall at least seem to be a part of the new development which we hope has begun in the far East.

THE poet tells us that life is real, life is earnest, and things are not what they seem. The latter part of this couplet is especially true as relates to architecture, which is essentially an exponent of the unreal and the conventional, above all, as exemplified by our modern methods of construction. In our buildings we have rightly or wrongly abandoned the ponderosity of construction, which in all past ages has been an essential feature of large architectural creations, and we carry up a wall 125 or even 350 ft. high with a thickness of 12 to 16 ins., crowning the whole with a massive, widely projecting, deeply-cut cornice, composed of small bits of terra-cotta balanced on the ends of the steel construction. This is right or wrong, depending, of course, upon the point of view. We will not undertake to question the wisdom of the new construction, but there is one feature about it which must be borne in mind if a successful design is to be produced. If things are not what they seem, we must look to it that they seem to be what we mean they shall seem to be, and that if we are to produce the effect of a heavy cornice, even though it be made of small members and in its essence is steel skeleton, we must make it seem to be really massive, and our high buildings must have all the appearance of solidity. This is not falsity, though at variance with the theories which Ruskin used to point a moral, but is entirely a matter of pure design. It is the failure to recognize this necessity that makes so many of our tall buildings look attenuated, weak, and hastily thrown together, even though the structures may really be thoroughly well built. The appearance of strength, stability, of endurance, is an essential element of good architecture, and this appearance must be considered even when, as has been done in a very few cases, we build the exterior with walls constructed with expanded metal and one or two inches of concrete.

FIRE LOSS.

THIS country has just passed through an incipient boom. Perhaps its effects have not been felt by all of our readers; nevertheless, for a brief period prosperity was enjoyed, and but for the sudden and unnecessary advance in the price of steel more architects would undoubtedly have profited thereby. This partial prosperity has been felt by many different classes of people, but, if we may judge from what has been told us, it is not shared by the insurance companies. It is a curious reflection upon human nature that good times means a vastly increased amount of fire loss. During 1899, destruction by fire was ten million dollars greater than for the ten months of 1898, and over nineteen million dollars more than during the same period in 1897, and this notwithstanding the constantly increasing number of structures which are erected in such manner as to be at least an effectual barrier to the spread of fire. Furthermore, we are told by one of the most prominent insurance adjusters that the connection between cause and effect is perfectly understood by many of the companies, and that it is a fact that as soon as prosperity begins to strike the country the number of incendiaries who cannot be convicted vastly increases. There never was a time in the world's history when buildings were erected so thoroughly, with so much regard for the resistance of fire, and, conversely, never was there a period when the chances of total loss by fire were so great. We cannot undertake to reconcile these statements; they are simply facts.

THE SMOKE NUISANCE.

THE many efforts which have been made by New England manufacturers to secure such repeal of import duties as shall allow them to draw soft coal from Nova Scotia to replace the anthracite, which is now so generally consumed in Boston, are commendable from every practicable standpoint, except the score of the results which seem to inevitably follow extended use of soft coal in a city. Pittsburgh, Cleveland, and Chicago illustrate the effects of soft coal smoke on building material. While brick and terra-cotta suffer the least from the smoke nuisance, and are the materials on the whole best adapted to resist such influences, there is no material which is proof against it, and none which are not often hopelessly ruined by the combined action of the coal smoke and of the damp, foggy atmosphere which seems to come with it. We have always taken a great deal of pride in the clear atmosphere prevailing in Boston, and, while we heartily sympathize with everything which tends to increase business facilities and add material wealth to the country, we hope that should soft coal ever threaten to become paramount here, it will be possible to devise some more effective form of smoke-consuming device than has existence now in the market.

THE RECENT EXPLOSION AT THE UNITED STATES CAPITOL.

THROUGH the courtesy of Mr. Glenn Brown, architect, of Washington, we have received the report of the architect of the United States Capitol for the year ending June 30, 1899. In this is incorporated the report made by Mr Brown on the effects of an explosion in the Capitol, Nov. 6, 1898, which occurred in what was before the erection of the present Senate Chamber the Senate wing of the old Capitol building, now the section of the building occupied by the Supreme Court. This part of the structure was built in 1793, was partially destroyed by the British in 1814, and was repaired by Latrobe between 1815 and 1820. The description of the damage caused and the series of forty odd half-tones made from photographs of the damaged structure are extremely in-

teresting in many respects. Without going greatly into detail in the matter, the report sums up the conditions very fairly by stating that there could have been no better practicable construction to resist the explosion and fire than the construction which existed in the portions of the Capitol where the explosion took place. The simple brick vaulting and brick walls and piers, being the heaviest forms of construction, give the greatest weight to resist explosive action and the best material to resist fire. It was only by the modern innovation of the elevator that the fire reached the principal story. The recommendation is made that all damaged vaulting should be taken down and relaid as vaulting, as this is more permanent than iron beams and brick arches.

THE work of the student is always interesting, and if the general average of the work of the architectural department at Cornell is to be measured by the illustrations in the "Annual," which has just been published, the college is certainly deserving of the highest praise. This little brochure forms the best kind of announcement of what Cornell has been doing in architecture. There is only one criticism we would offer, and that is not fairly a matter of the "Annual" itself, but rather of the course of architecture which it illustrates. It seems a mistake to in any wise encourage the so-called special courses, in which a smattering of architecture is, perforce, plastered over the student's mind. Architecture is not acquired in any such way, and it is to be regretted that our architectural schools cannot generally follow the lead of Columbia and the Institute of Technology in discouraging any curtailment of the amount of time to be given in preparation. Of the work of the Cornell department as a whole we would, however, say nothing but good. The selection of the programs and the manner in which they are treated, as shown by the illustrations, are in the highest degree commendable.

SERIES OF AMERICAN ARCHITECTS.

IT is our intention to begin very shortly a series which we believe will be of a great deal of interest to all of our readers, appealing both to the practising architects who have won their positions and to the younger men who are still in the incipient state. We are often in receipt of inquiries from students as to what is the best procedure to properly equip themselves for their life work as architects, and this series is intended to illustrate the path by which successful architects have risen to their positions. We propose to make a selection of a number of the best-known architects throughout the country, presenting in a brief, comprehensive manner a statement of the course of study pursued by them as students, the path which they have followed in their architectural development, and the methods of study which they have adopted, together with a presentation of the work which they have accomplished. In making this selection we shall endeavor to present typical examples rather than necessarily a complete *résumé* of the profession as it now is, and our idea is to epitomize the methods of architectural education which have been followed by our successful architects, making our choice not necessarily from the architects who have had the largest commissions, but rather from those who are known for the excellence of their work, and varying the list, so that we will show the different kinds of preparation which a young man should consider in fitting himself for architectural work. The standard of the profession has risen enormously within the last generation, and it is no longer possible for a young man to compete seriously for public approval unless he has undergone a long and severe course of study. And while it is not possible to lay out any course which would fit all cases, we can judge from results what methods have been successful, and we are sure that a series such as we propose will afford a record of the best in our American practise.

BRICKBUILDER COMPETITION. I.

AN ENTRANCE GATEWAY AND LODGE FOR A LARGE ESTATE.

PROGRAM.

IT is assumed that a gateway is to be built at the entrance to the grounds of a large private estate. A wall separates the grounds from the highway, extending in a northerly direction; the entrance is recessed from the line of the street, either in a rectangle or semicircle as preferred, and provision is to be made for a driving gate in the center, 9 ft. wide in the clear, and a foot passage each side, 4 ft. wide, though these dimensions need not be followed exactly in the design. On the left of the gateway, looking from the road, there is to be a gardener's lodge, containing a small living room, so placed that the main highway and the road inside the grounds can be visible from its windows, this room being about 16 by 18 ft. There is to be also a kitchen, 10 by 11 ft., a dining room, 11 by 14 ft., and a small entrance hall large enough to afford space for a desk and key rack. In the upper story there are to be two small chambers, with bath room, etc. The lodge may form, if desired, a part of the enclosing wall of the estate. The gateways are to be closed with iron grilles. The ground is supposed to be level. All of the construction is to be such as is adapted to materials in burnt clay.

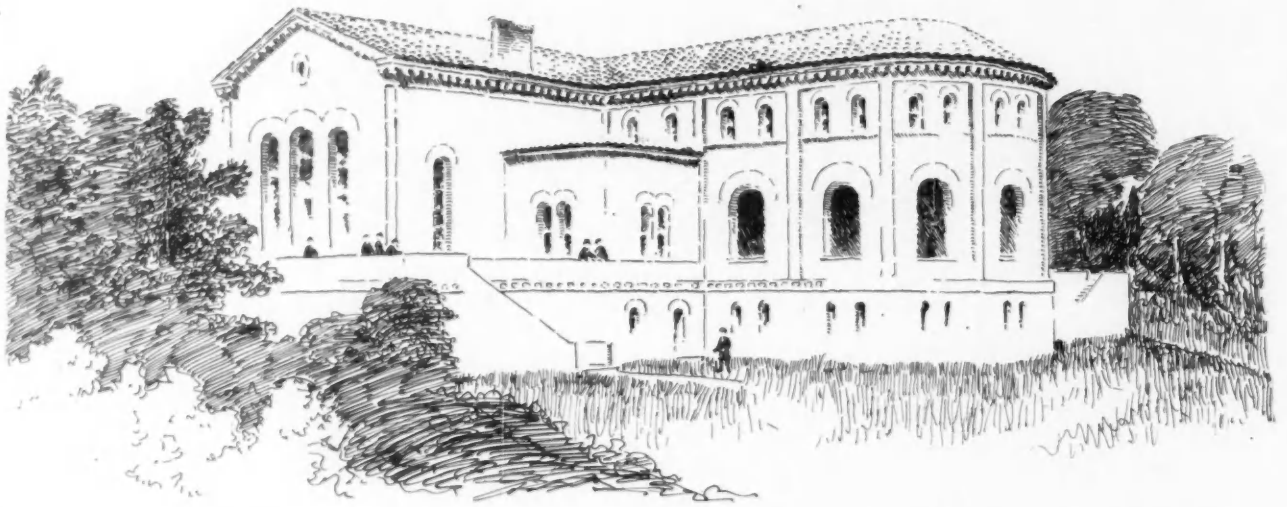
REQUIRED: A perspective sketch taken from the side of the highway diagonally opposite the lodge, also a sketch plan of first floor only at scale of 1–16 of an inch to the foot, both drawings being in black ink with no wash work, upon a sheet measuring 15½ ins. wide by 10 ins. high. Each drawing is to be signed by a *nom de plume* or device, and accompanying the same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawings are to be delivered, flat, at the office of THE BRICKBUILDER, 85 Water Street, Boston, on or before March 15, 1900. For the three designs placed first, THE BRICKBUILDER offers prizes of twenty-five, fifteen, and ten dollars, respectively. All premiated drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish any and all drawings submitted. Mr. Cass Gilbert has kindly consented to judge and criticize this competition.

A Public Library, Cost One Hundred Thousand Dollars.

BY ARTHUR G. EVERETT.

A SMALL town among the New England hills offers an interesting little problem in planning a library. Interesting because of the peculiarities of the site and because of the attractiveness of the location of the town



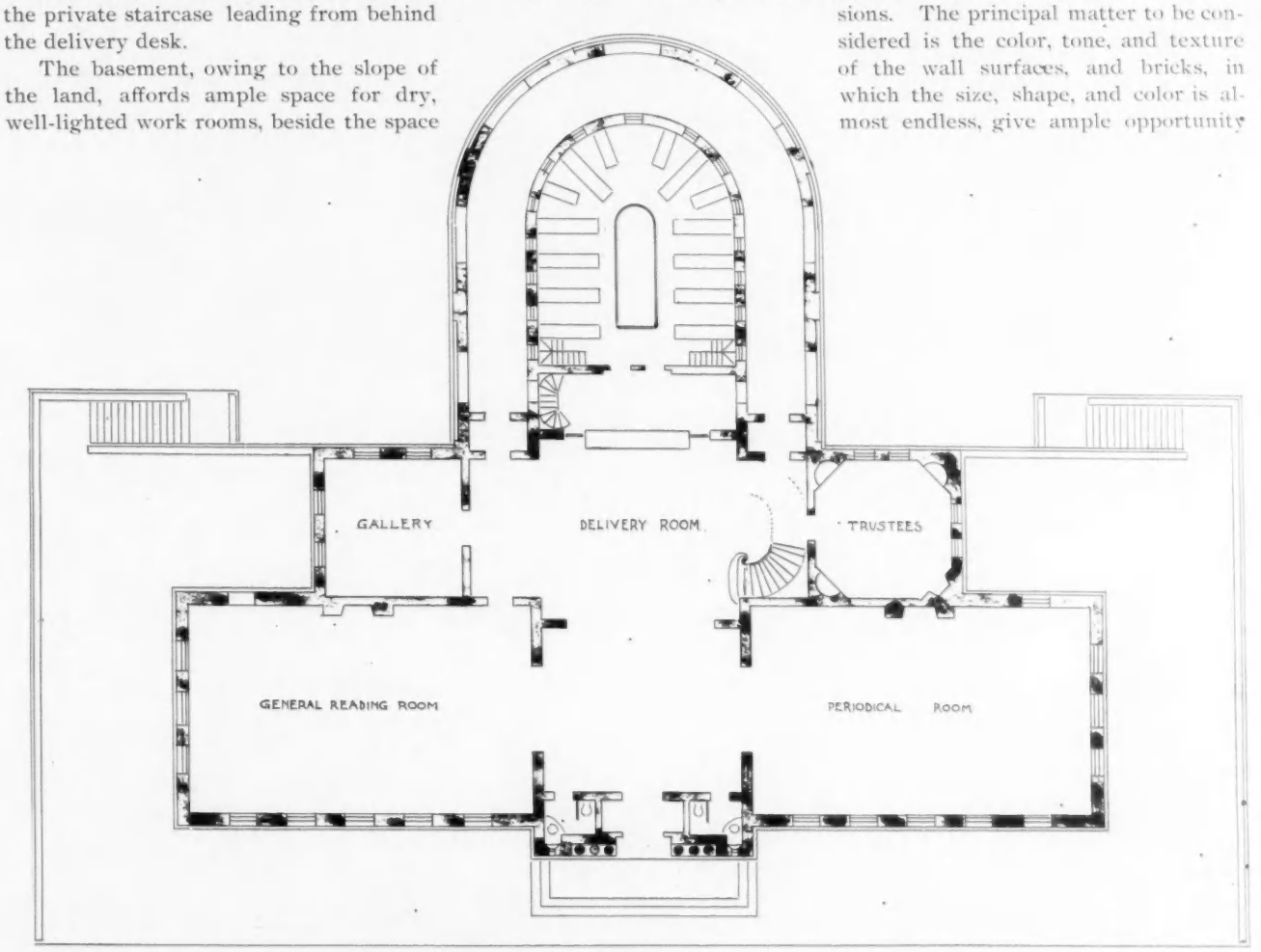
itself, with its outlook across the valley at the foot of the hill upon which it is built. The size of the lot and the general dimensions of the building being determined, there are but two conditions imposed which affect the treatment of the building. One is for the use of "burnt-clay products" for the exterior, and the other, following old precedents, is for a "closed stack." Otherwise one is left fairly free to do as one pleases.

When books are so easily replaced as in these days, it seems unnecessary to continue in use a system devised simply to avoid the confusion and injury resulting from promiscuous handling. A little care and trouble on the part of the attendants in a library, with the addition of a few simple rules for the guidance of the readers, would obviate all difficulties, and make the collection of much more value to the public. An opportunity to go among the books, take them from the shelves and look them through at will, would be a great stimulant to interest in them and result in a better acquaintance with their contents. Nor does the danger from fire seem to be of such importance as to make it necessary to keep all the books behind closed doors, accessible to officials only. Most of our town library buildings stand quite by themselves, and are in little or no danger from fire from without; and at very slight expense the building may be made sufficiently safe to give reasonable assurance that no damage will result from a fire within. Certainly the gain in attractiveness in the arrangement of the building would fully compensate for the slight care and expense involved by the open stack system. In this instance the closed stack is to be used, and the only books in evidence upon entering the building will be those placed in the general reading room for reference. The closed stack determines in great measure the arrangement of the plan, for it must be beyond the public parts of the building, and is naturally placed opposite the entrance, on the axis of the building. The two principal rooms are placed, almost as a matter of course, on each side of the entrance hall, and as observation in several libraries leads to the belief that the newspaper and periodical room should be made quite as large as the general reading room, being fully as much in use, the suggestion that less area will be sufficient for this room is disregarded, and the two rooms are made of equal dimensions. With this much determined, it only remains to place the trustees' room and the room for the exhibition of photographs and paintings where they may be readily reached from the delivery room, to complete the arrangement of the first floor. One thing is added, however, to the first-floor plan, in deference to the outlook from the rear of the building, and this is the covered walk leading from the delivery room on each side and surrounding the stack. As the building stands upon the spot from which the best view of the surrounding country is to be had, it seems as if advan-

tage should be taken of this opportunity to make a place which may be used as an out-of-door reading room in warm weather.

As partial compensation for the closed stack, there is to be a reading room in the second story, over the covered walk, where students and readers upon special subjects may have access to the books upon the shelves at this level. The librarian's room and the cataloguing room are to be placed upon the second floor, to give greater seclusion, and also to give the needed control of the special reading room. Both these rooms can be easily reached from the first floor by the public staircase, or by the private staircase leading from behind the delivery desk.

The basement, owing to the slope of the land, affords ample space for dry, well-lighted work rooms, beside the space



required for the heating apparatus, storage of fuel, and janitor's room. This slope of the land also gives a high, dry, well-lighted space in the lower part of the stack, which will be sufficient to accommodate the growth of the library for many years to come, without adding to the building.

The wish to have the exterior built entirely of burnt-clay products is reasonable; for the materials are produced in the neighborhood, and many of the townspeople are interested in their manufacture. The ease with which a great variety of materials can be had is often an embarrassment rather than a help to the designer, or it would seem to be so if conclusions may be drawn from the varied assortment often found in one building, and it should be considered rather a blessing than otherwise when some restriction is placed upon the selection, either by a reasonable preference of the client, or through difficulty in getting other than those at hand and belonging to the region. The very limitations of the material itself encourage the endeavor to do the best thing possible with it, and interest grows as its possibilities are discovered and turned to account.

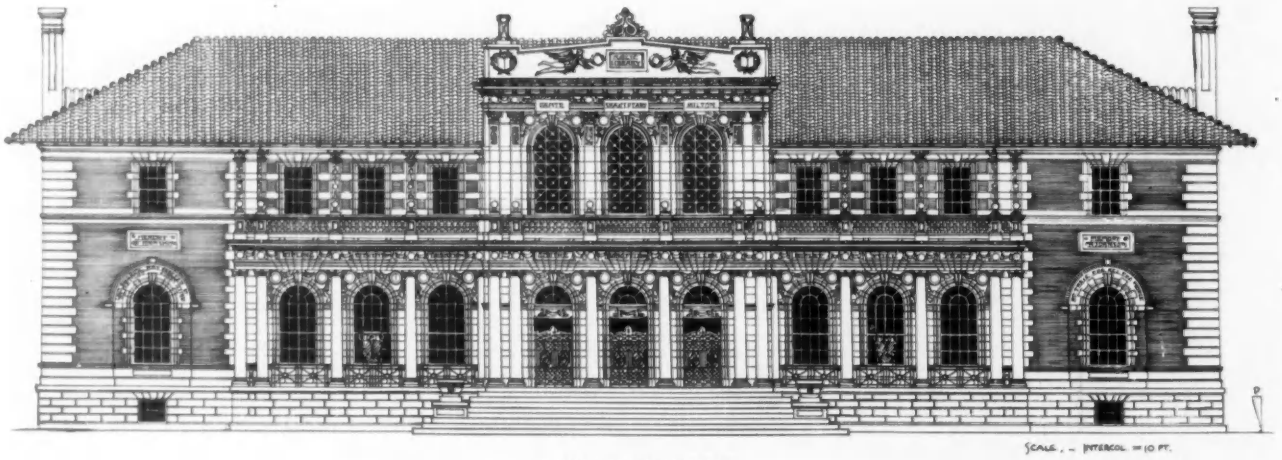
The first and perhaps the only important limitation of burnt clay is in the size of units. Small pieces only can be had. Therefore a due respect for the material, which spurns the surreptitious use of iron, will arch all wall openings and limit projections to suitable dimensions. The principal matter to be considered is the color, tone, and texture of the wall surfaces, and bricks, in which the size, shape, and color is almost endless, give ample opportunity for a selection in harmony with the surroundings. Bricks also lend themselves to arrangements quite sufficient for any accentuations and ornamentation that is desirable. Terra-cotta, emancipated from its cheap masquerade as stone and treated honestly, is a material that one may find pleasure in using in connection with brick where larger pieces or peculiar shapes are needed. The wish of the townspeople can be carried out to the very last detail, for beside the use of tiles for the roofs, tile arches may be used for the vaulting over the covered walk, for its floor, and for the pavement of the terrace. It is not necessary to consider too fully the treatment in detail, as in a preliminary sketch a suggestion merely is aimed at; the ultimate form of the building and its treatment both being matters for more serious consideration.

A Public Library, Cost One Hundred Thousand Dollars.

BY J. F. HARDER.

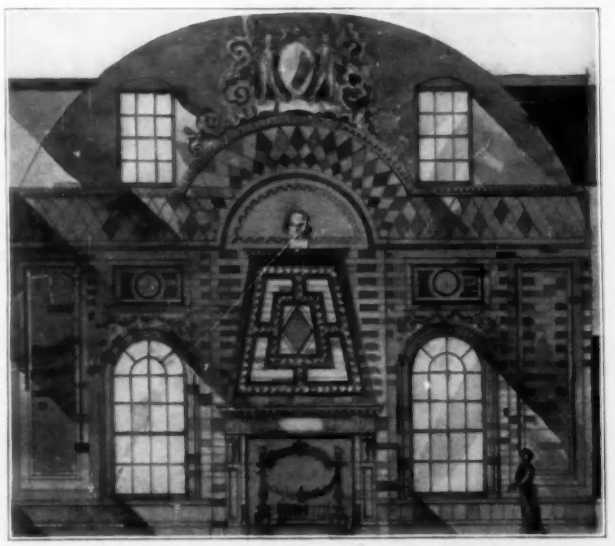
HERE is a program which appeals to the imagination, at least, being free from hampering conditions. It does not inspire the fear which usually accompanies the suggestion of a competition, and consequently is free from the continual suggestion of the probability of dire defeat. On the contrary, being free from these, an incentive is furnished in the way of re-creation to amuse one's self in a playful way as to what should be done with some one else's $100,000, value received in the way of a suburban library building. This looks easy, but a little investigation and experience in handling other people's money soon convinces that it is not so easy. One soon prefers to spend his own money foolishly than another's wisely, and arrives at the conclusion that the process of acquiring $100,000 is perhaps more free from perplexities than to expend it to good purpose. In other words, it causes more hesitation deliberately to assume the responsibility of expending another's money than his own, and the acme of disagreeable things would appear to be to expend a client's money to his satisfaction or, indeed, to the approval of the irrepressible critic.

As the thought of a public library at once presents the idea of formality and dignity, this sentiment must at once be reflected in the arrangement of the building and in its architecture. Regularity and symmetry are therefore fundamental at the beginning. Certainly picturesqueness is out of the question. Stateliness, however, must not be carried too far, as its chill may become repellent, for of all public buildings a library must wear an air of invitation, grace, and comfortability, — a certain subtle something which makes the visitor feel at home and holds out an inducement for repeated visits. If public libraries are to be productive of any good in the community they must be used by the people to the limit of their capacity. Anything which helps to establish a democracy between books and men is the first function of a public library, small or large. There exist public institutions which are so sacred in their profundity of architectural effect that one hesitates to profane them by ordinary usage.



FRONT ELEVATION.

In this particular case the building is to be built for the use of the readers of a New England town of twenty-five thousand inhabitants. Therefore, the structure will not be large or particularly monumental, and the quality of comfortableness may even be stretched to the degree of coziness in some parts. Many matters of arrangement and design are therefore permissible which in a larger and more complex plan could not be entertained. Of course, as time goes on the town will grow, with some exceptions it is a way of New England towns, and with it will grow the demands upon the library. A provision to meet this anticipated increase by three times the capacity demanded in the book-stack room by present needs seems reasonable and provides all that your conservative New Englander cares anything about.



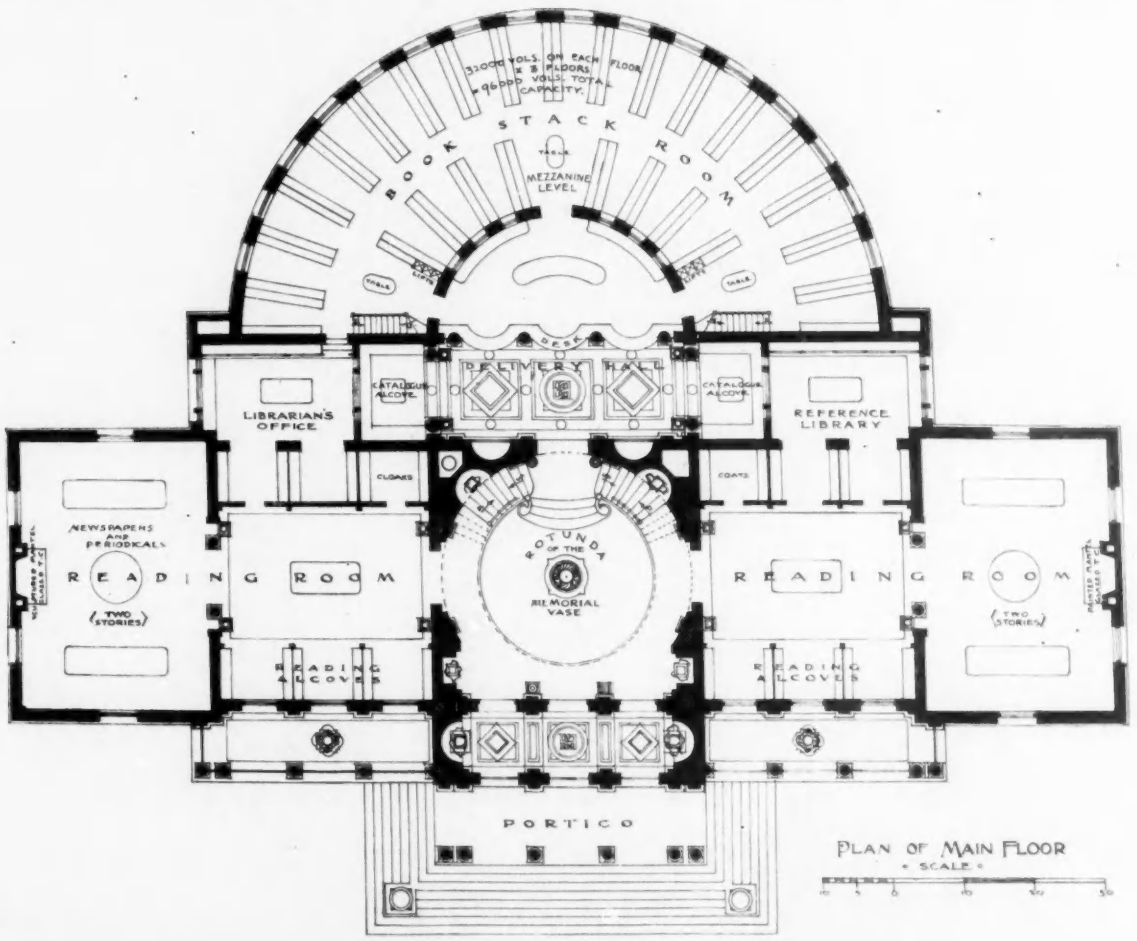
SKETCH OF READING ROOM.

This building being a memorial, it is built for all time. At the same time it is a storage place of volumes

of great value and of works of art. Aside from these two very pertinent reasons the science, methods, and economy of good fire-proof construction is now so far advanced that the employment of only the simplest and safest methods of fire-proof construction and of incombustible materials, to the exclusion of woodwork to the last degree, not only in the constructive parts but also in the finish and fittings, is a pre-requisite under the circumstances. It is astonishing, too, to what limit thorough non-inflammability may be carried when this object is earnestly pursued in its applicability to any given case. In this field terra-cotta, brick, tile, and the modern products of burnt-clay manufacture play many diversified parts and cover a wide scope. Not only do they possess the highest quality of resistance to fire and heat both from within and without, but the perfect plasticity of the material lends itself to the widest range of expression in color and form, satisfying at once in its manifold applicability all the demands of the architect, sculptor, and painter.

bate and the steps are of warm-colored New England granite, fine cut. Above this, the work is entirely of brick and terra-cotta. The brick are of Pompeiian red and the terra-cotta is half-glazed and vari-colored. Light gray prevails; blue, green, and yellow appearing in the panels and in the relief ornament. The roof is made of half-round glazed Italian tile, matching with the red of the plain brick walls. The flat surfaces of the terra-cotta are finely corrugated vertically. The gates and railings are of bronze of bright green color.

As we enter the building through the portico we stop in the vestibule a moment for a glance at the busts of two ancient writers of poetry and prose which occupy the niches to the right and left. Continuing to the rotunda, the eye takes in a half-dozen examples of antique pottery,



The exterior presents a long low building covered with a simple shed roof of medium pitch unbroken by dormers. While the elevation presents something of flatness and monotony in perspective, this is relieved by the animation which the repeated forward projections, in plan, of the central bay and the porticos afford. Around on the back the semicircular book-stack building continues to the height of the second story sill course, and is covered with a simple conical roof. The rusticated stylo-

reminding us that good books and good pottery have endured longest in the affections of mankind and most unchangeably withstood the ravages of time. In the center of the rotunda stands the memorial vase. As the building is a memorial built as a monument to the name and fame of that village hero whose good fortune it was to be able to contribute materially to progress, the object which specifically enshrines his memory here takes the form of a memorial vase. It stands upon a low pedestal and is 7 ft. in height, made of pottery clay glazed and in colors. Upon its surface appears in relief the pictorial presentment of our hero's life, while the record of essential facts and dates is fittingly set forth by lettering.

Now comes a slight change of level. Upon an ascent of four steps is the delivery or distribution room. This is a domed hall lighted from above. Beyond it extends the book-stack room in the form of a semicircle. This room is repeated both above and below this level. This circumstance, in connection with the semicircular form of the book-stack building, brings the volumes upon the shelves within maximum accessibility from the delivery desk. Again, the semicircular form appears to present peculiar advantages in reference to economy of floor space, of corridor length, and for sufficient lighting.

The outer wall length affords space for windows of much greater width than can be attained under the conditions of the usual rectilinear stack-room plan. The fronts of the stacks in the radial plan become set at a slight inclination toward the windows which is of immense advantage for reading the stacks.

As the land slopes down towards the rear the lower stack story will be wholly above the ground with a basement beneath.

As one story of the stacks will suffice for present library necessities, the stories above and below the middle level remain in the rough for future finishing and fitting.

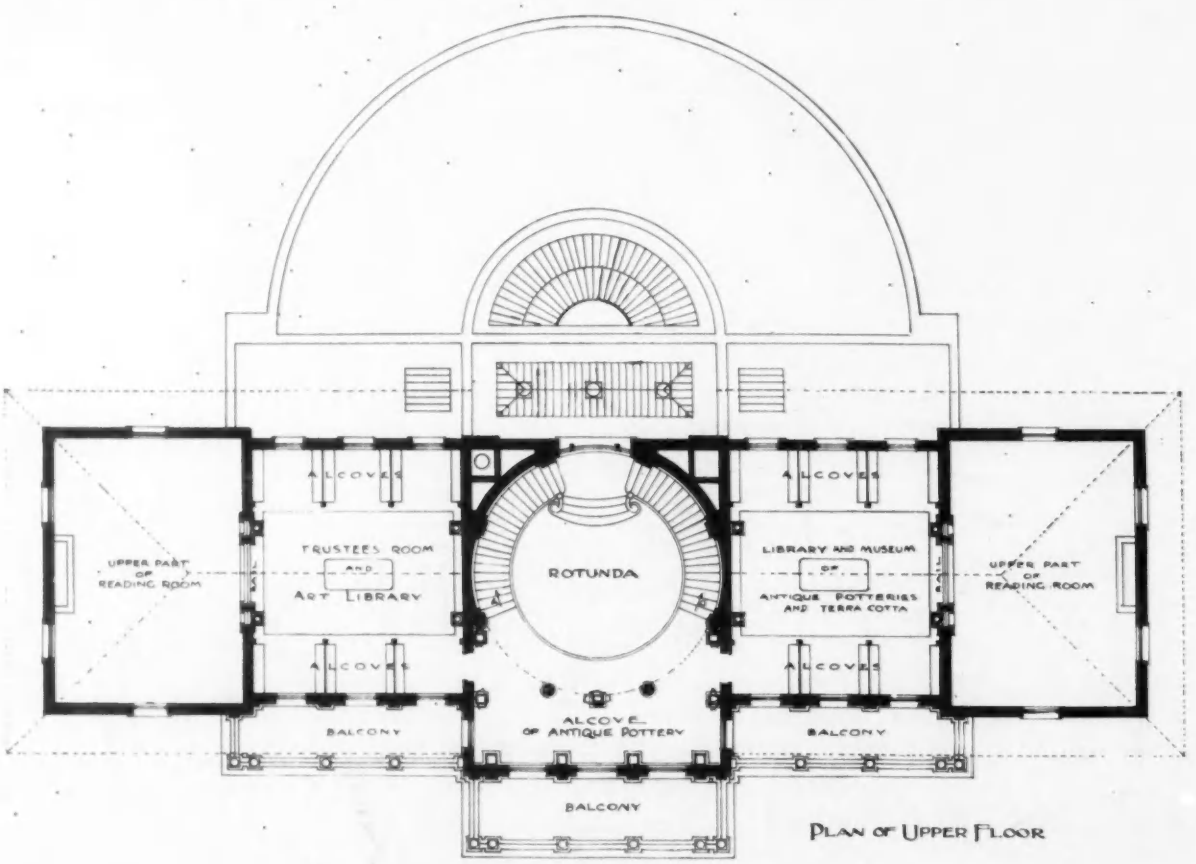
Returning to the rotunda, the reading rooms extend to the right and left from it. The view upon the line of the cross-axes terminates not in a window, which would have the effect of throwing everything between it and the eye into silhouette, but in a great illuminated mantel at each end. Both are done in colors, one in under-glaze painting, the other in relief modeling. The further sections of the reading rooms extend through the whole height of the building to underneath the roof. Their ceilings are barrel vaulted crosswise, so that semicircular lunettes are formed over the mantels and entrances. The intermediate reading rooms give access to the side porticos, which in summer are thrown open to the public in connection with the reading alcoves behind them.

Packing and work rooms, storage room, toilets, etc., are in the basement. In the upper story are further rooms for research and outdoor balconies for summer use.

As the plan is divided into compartments each entirely surrounded by masonry walls forming floor spans of moderate length, the vaulted Spanish method of floor and roof construction, made with overlapping thin slab tile, will be feasible, economical, and appropriate. In most places this is laid in patterns and forms the finished ceiling at once. In the cases of the barrel vaults of the reading rooms and the domes over the rotunda and delivery hall, however, the joints are left unstruck to form a key for a final finish of tile mosaic.

The finish of floors and wall surfaces, including the architraves and trim around door and window openings, are also made of terra-cotta. The blocks are hollow and closely hand-fitted by cutting and grinding on the site.

In the case of the exterior walls, the blocks are laid against a coat of water-proofing applied to the inside face of the outer masonry before the inner lining of finishing terra-cotta is set against it.



PLAN OF UPPER FLOOR

Minor Brick Chateaux in France.
II. Early Renaissance.

BY WILLIAM T. PARTRIDGE.

DURING the whole of the sixteenth century society in France was in so unsettled a state that the builders of the many small chateaux which are scattered throughout Normandy could not venture to neglect any of the known means of defense. An enclosing wall and moat with drawbridge and entrance lodge and machicolated towers, — all the features, indeed, of the *châteaux forts*, — were included in their design. Several of these entrances of the time of Francis I. are still in good preservation, and through the veil of Renaissance ornament

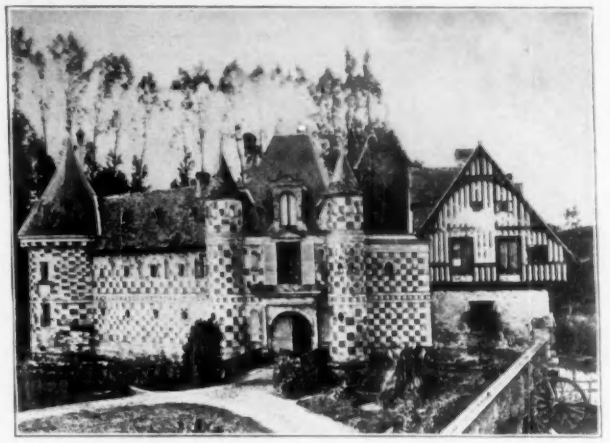
CHATEAU ST. AGIL.

that overspreads them one can easily discern the miniature fortress.

One of the most interesting of these entrances is at *St. Agil.* It is built of brick, but the means of defense are easily discernible. The influence of the Renaissance has altered hardly a feature, the mullioned windows yielding easily to a classic treatment, and the quaint little pilasters added on either side bringing them clearly within the new style.

The brickwork is ornamented with a diaper pattern in a darker brick laid with a thin joint. Yet at Moulins, a Gothic château not far from here, the thickness of the joint is nearly equal to the width of the brick. The bond stones are carried deeply into the brickwork.

On closely examining the composition one finds the small door, now blocked up, forces the axis of the main



CHATEAU OF ST. GERMAIN DE LIVET.

doorway off the center of the building, and that this inequality is carried right up through the cornice to the dormer. Though this is easily discovered by counting the corbels in the machicolated cornice, the eye can scarcely detect it.

The little pavilion of the *Ferme Caillctot*, near Bolbec, is less martial in character. It also is of brick and is much the same in mass, but it is decorated by horizontal bands of stone, which continue through the wall of the adjoining building. A small portion of the wall surface is covered with a diaper formed by flints and small blocks of stone set edgewise. The stone dormer is very interesting and is in perfect preservation.

The picturesque château of *St. Germain de Livet* is later than these two, but is similar to them in composition. It is built in brick and stone laid like a checkerboard. But the long vertical joints which result from

PAVILION OF THE FERME CAILLETOT.

CHATEAU D'AGUESSEAU.

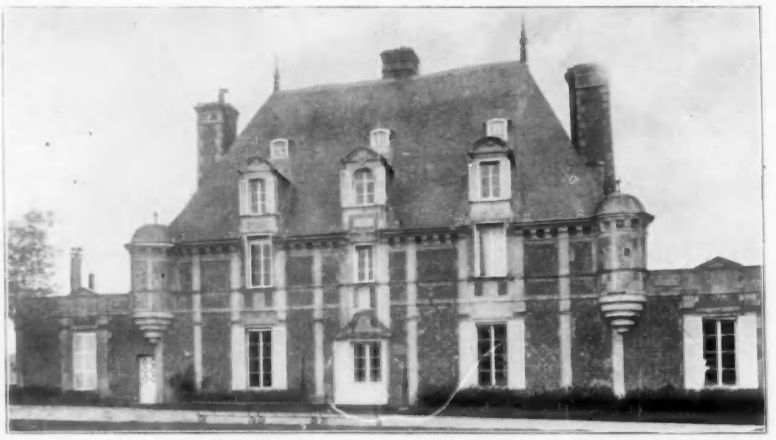
this disposition obviously impair the strength of the wall, and the stones are accordingly made to overlap one another. The contrast in the color of the brick and stone is here so great as to destroy much of the charm of this most attractive group of buildings.

The Manor House, at Bainvilliers, is quite different in character from the preceding examples and is a simple residence with not a trace of the fortress. In composition it is a rectangular mass roofed with a high, steeped roof, broken by dormers which crown the group of windows on the façade. Several string courses are carried through and pilasters mark the position of the internal walls. The façade is not symmetrical. The entrance, a double one, is placed quite to the left, and was originally under a vaulted porch.

The central feature is a large double window terminating in a double dormer under a single gable. Single dormers on either side make a nearly symmetrical composition. The walls are of red brick laid in headers; a diaper pattern is formed by darker brick. Below the cornice the wall is ornamented with a half diaper pattern, which by its form and position recalls the peculiar pendent tracery under the cornices of Blois and Châteaudun. The chimneys are of molded brick.

The workmanship of this little building is most careful. All the stones bond exactly into the brickwork, and the moldings on the stone string courses are well studied and carefully cut. There is no better precedent for a modern dwelling.

Another building of this same period of the Renaissance is the *hôtel de ville* of Lorris. It is a Renaissance solution not of the château but of the city house, a building between two party walls. The illustration taken from a measured drawing shows a nearly symmetrical façade, with a small central doorway. On either side the windows are massed, a double and a single opening being combined, and are crowned by a dormer on the axis of the double window. The stone string courses return upon themselves without projecting over the party line.



CHATEAU D'AGUESSEAU.

The wall surfaces of this building are decorated by large diaper patterns in a different colored brick.

CHATEAU OF CRIQUEVILLE.

In the *Château de Boisset-le-Châtel*, near Rouen, built in the sixteenth century, both the design of the brickwork and the general composition are of exceptional interest. In plan it is the typical small château like Martainville, but in its architectural features it goes a step beyond the work of the so-called Francis I. period. A hall runs through the center terminating at the rear in a staircase, which is carried up in a tower. On either side of this hall the rooms are placed with their long axes at right angles to that of the hall. This makes the length of the façade greater than at Martainville. Circular corner towers of small size flank this façade, while on the rear the line of wall is broken by the high staircase tower already mentioned.

The central pavilion on the façade, though apparently preparing for a great central dormer, suddenly terminates in a low pediment. The pediment is jointed with the cornice so neatly that it is difficult to determine whether it is of the same period or not.

CHATEAU OF BOISSET-LE-CHATEL.

The central window is assuredly of later date. There is an interesting variation in the second story windows. The difference in width between them and those of the story below is placed on the outside of the group, the width of the pier being thereby kept the same in both stories.

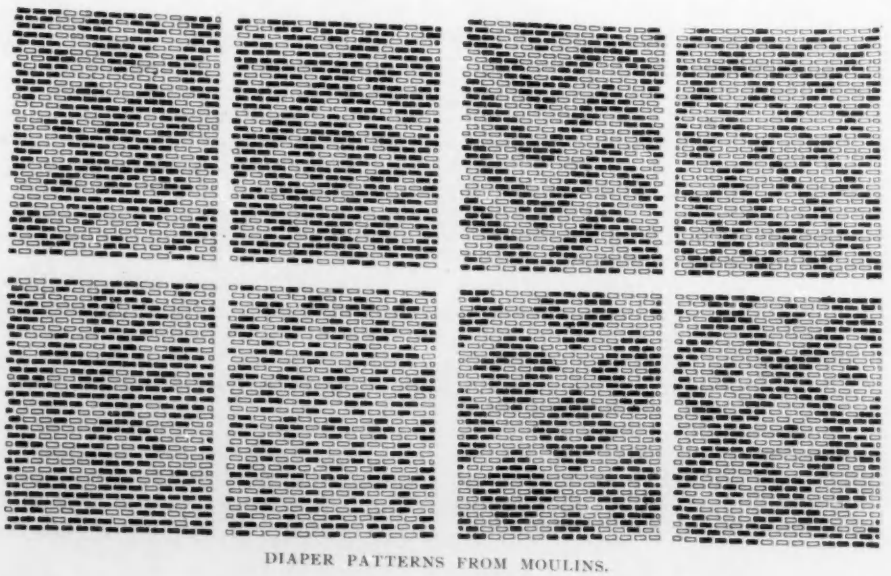
The dormer is on the axis of the central window, small bullseyes coming over the windows of the first and ground floor. Above the dormers is another bullseye, which forms part of the gable of the dormer. Between these the tower of the staircase can be seen in the illustration rising above the roof.

The brickwork is laid in a "herringbone" pattern in the first story and in the upper portion of the tower. In the second story it is laid so as to form a lozenge-shaped pattern. The bricks that make the pattern are light in color, originally white, but now discolored, while the color of the body of the building is a dark reddish-brown.

The features in this château so much resemble those of the style of Henri II. that were it not for the dormers, one could place it among the later châteaux of that reign. Whether the corner towers become unserviceable or the difficulty of laying a circular wall induced a change is not readily determined. But whatever the cause, the change in the plan of the corner tower from round to square is characteristic of the work of the early Renaissance. The old traditions are still held strongly both in mass and plan. But the central feature changes, and in one type it is so exaggerated that in order to give it the greater emphasis the main ridge of the roof of the building is divided, separate hipped roofs being formed over each of the adjoining wings. The other variation followed an opposite course, the central feature being almost obliterated and marked only by a low gable or pediment, while the towers on the corners became small square turrets or dropping in height to low flanking wings. These extremes are illustrated in the châteaux of *Criqueville* and *d'Aguesseau*, both in the department of Calvados. *Criqueville*, with the high central staircase, is built in alternate masses of brick and stone, the blocks of stone

MANOR HOUSE AT BAINVILLIERS.

slightly overlapping each other. The bonding of the brickwork is quite irregular. The *Château d'Aguesseau*, near Trouville, is a low, symmetrical little building with a high roof, the eaves of which are brought down quite to the second story, so as to give all the expanse of roof possible. The cornice is broken through by the windows and the small turrets are lowered, thus allowing the same cornice to be carried around them. The cornice being so low makes the dormers rather high. The skill and study shown in the grouping of the windows and in the treatment of the pilasters force one's admiration. There are traces of a lozenge-shaped pattern, but the color has so faded out that it is difficult to trace it, though a few faint lines show it to be correct in scale. This château is a delightful composition, whether viewed from the front or from the rear, where the ground falling rapidly away permits another story.



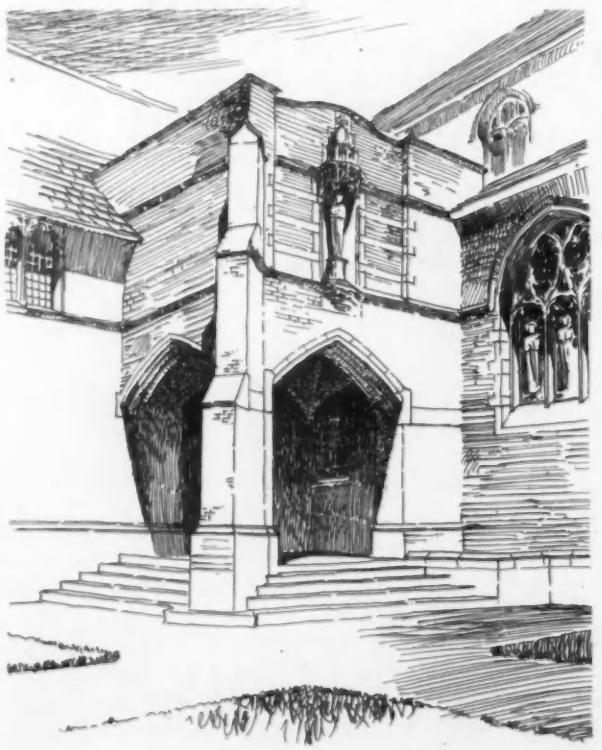
DIAPER PATTERNS FROM MOULINS.

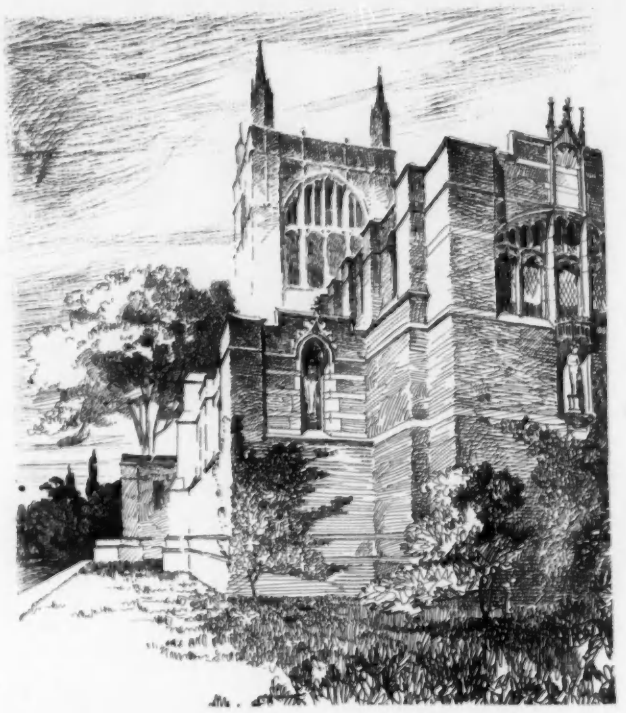
A Village Church, Cost Fifty Thousand Dollars.

BY RALPH ADAMS CRAM.

NO subject offers itself to the architect that has such infinite possibilities as a church. We are only just beginning to find this out here in this land and generation. There was a time in the early days when churches, or rather meeting-houses, as they nearly all were at that time, were quite as good, indeed a great deal better, than the domestic work, and such public work as the poverty of a new country made possible. Later there was a time when churches were quite as bad as, even worse than, the rest of the architecture of which we were guilty. When art began to assume something of its just position as a profession, emerging from its former status as a trade, church building lagged far behind all other branches, and we went through the successive periods of Victorian Gothic, Queen Anne, and Romanesque, unconscious for the time that these episodical styles were showing their weakness more clearly in our ecclesiastical work than in any other. There seemed to be a general idea that any one could build a church, and the results only proved that "any one" tried to.

This condition has passed; some years ago ecclesiastical architecture in England began to acquire a vitality that did not manifest itself elsewhere. With the last Gothic as a basis, the Gothic that had been wiped out together with all other art during the reign of Henry VIII., the architects who understood the meaning and the nature of the rejuvenated Church began to take up the essentially Christian style where its life was brought to an end by untimely and untoward events, and to develop it on sane and sympathetic lines. Beyond all question, church architecture in England to-day is at its best the most





spontaneous and really national architecture that can be found anywhere. Its influence is now making itself felt in America, and little by little architects are beginning to realize that in spite of the French school ecclesiastical architecture is one of the greatest of the fields open to them. For in a church we are at once raised above the limitations of commercialism and the mechanical qualities so salient in contemporary life. We have to express, not some outgrowth, some manifestation of to-day with all its indifference, indeed all its antagonism, to artistic forms; instead, we have a vast and dominant power lasting over, changeless and unchangeable, from those times when art was instinctive and was indeed the very creation of this power. But it is the unchangeable Church existing in a new environment, under different circumstances, and among a new people, therefore both ideas are to be expressed: the idea of the immutable Church and the idea of the new environment.

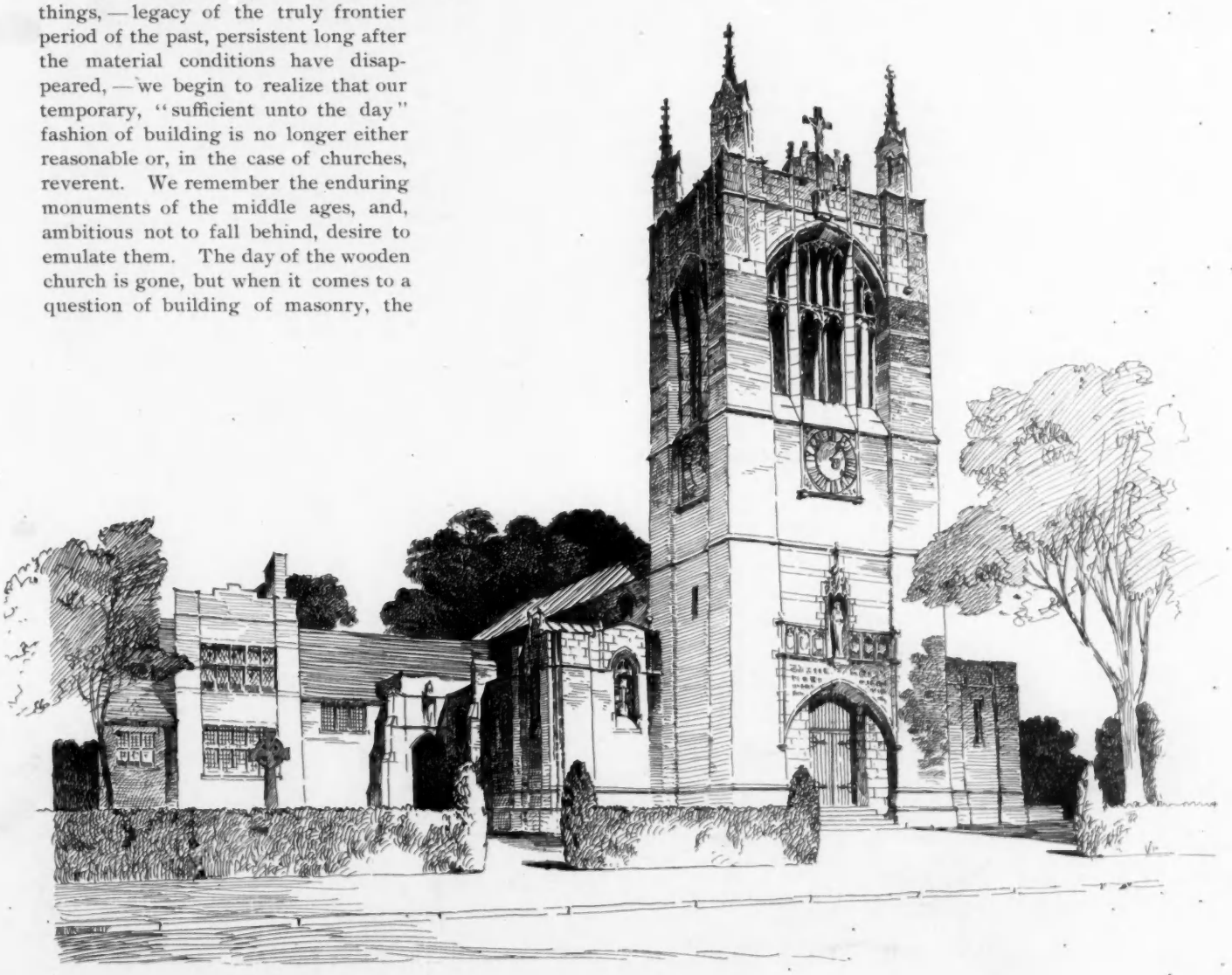
What is the basis of this work? Not some new and purely secular style like the fashionable Parisian Renaissance, not some archæological memory sought out of the distant and historic past, not a style created by men of one nationality and one epoch to express their own particular ideas, but rather the style of the Church as it was developed through century after century down to the time when it ceased; and ceased, not because of its own decay, not because of inherent weaknesses, but for the reason that certain events took place which brought it to an untimely end.

And what have we to express through this style, this order of architecture, which it is for us to continue and develop? Surely all that was in the middle ages. An enormous and dominant agency that appeals to every one of the highest instincts in men, and demands for its expression every form of art raised to its highest point. The architect who believes in the Church and understands her is hampered in no respect when he is called into her

service. I say is hampered in no respect; this is not strictly true, for there is one mitigating circumstance that arises now which was little considered five hundred years ago: that is the question of cost. We have not yet reached the point when we can realize that the building of a church demands a certain amount of self sacrifice; when we feel certain that nothing can be too good where the building of a church is concerned, but that everything, even the best, must be in a measure inadequate, and that, therefore, no false economy, no sham, and no cheapness is for an instant permissible.

As we in America gradually emerge from the frontier way of looking at things, — legacy of the truly frontier period of the past, persistent long after the material conditions have disappeared, — we begin to realize that our temporary, "sufficient unto the day" fashion of building is no longer either reasonable or, in the case of churches, reverent. We remember the enduring monuments of the middle ages, and, ambitious not to fall behind, desire to emulate them. The day of the wooden church is gone, but when it comes to a question of building of masonry, the only alternative, we are confronted by the matter of cost, for, as I have said above, we have not yet returned altogether to the medieval spirit that thought a church was a matter worthy of some sacrifice. Stone we have in plenty and of great variety, no nation ever boasted more, but to use it as it was used in the past means the expenditure of much money. Yet stone we must have, or think so at any rate, so we compromise and use it in rough and unjustifiable ways. We annex the primitive stone wall of round, angular, or otherwise impossible units, and relay it in an unstable wall, dubbing it "picturesque" to gloss its structural shortcomings; we split crude slabs out of sandstone quarries and lay them up as they come, guiltless of chisel, vicious in surface, and unsatisfactory in mass. These things we do because we are unwilling to spend a little more money for the sake of obtaining an homogeneous wall with a fair and self-respecting surface.

Grant for the moment that we really *can't* afford dressed stone and the locality does not furnish flat-faced



field stones or granite with smooth cleavages: in this case it is much better to use brick, if it is used as it should be. In itself it is a most admirable building material, even for ecclesiastical work, which requires the best of everything. Rich in color, excellent in surface and texture, it is easy to handle, universally available, and comparatively cheap. Of course its durability is unparalleled and it is perfectly honest. Nevertheless, it is not popular for good church work, and for two reasons: first, because

it has been used vilely by the builders of Roman Catholic churches and in this connection is uniformly hideous; second, because all sorts of fancy bricks with fierce colors and shiny surfaces have been poured on the market, and few of these can be used in church work without disaster. They have been used, however, and the bad results have been attributed to the material, not to the variety.

Now, brick of the right kind can be used properly, and when this is done it is a perfectly satisfactory material for church building. By "used properly" I mean laid up in Flemish or English bond with wide joints of gray mortar, broad surfaces, concentrated ornaments, and plenty of stone or terra-cotta of proper color for trimming and optical strengthening, worked well into the brick.

This is the way brick is used in England, and there it is one of the most characteristic features of the new school of restored Gothic. We have just as good brick in this country and we ought to have intelligence to use it equally well. Generally we don't, and the shocking spectacle of a church built of bright red "face" brick with trimmings of white granite is of course enough to disgust the unfamiliar with the material forever.

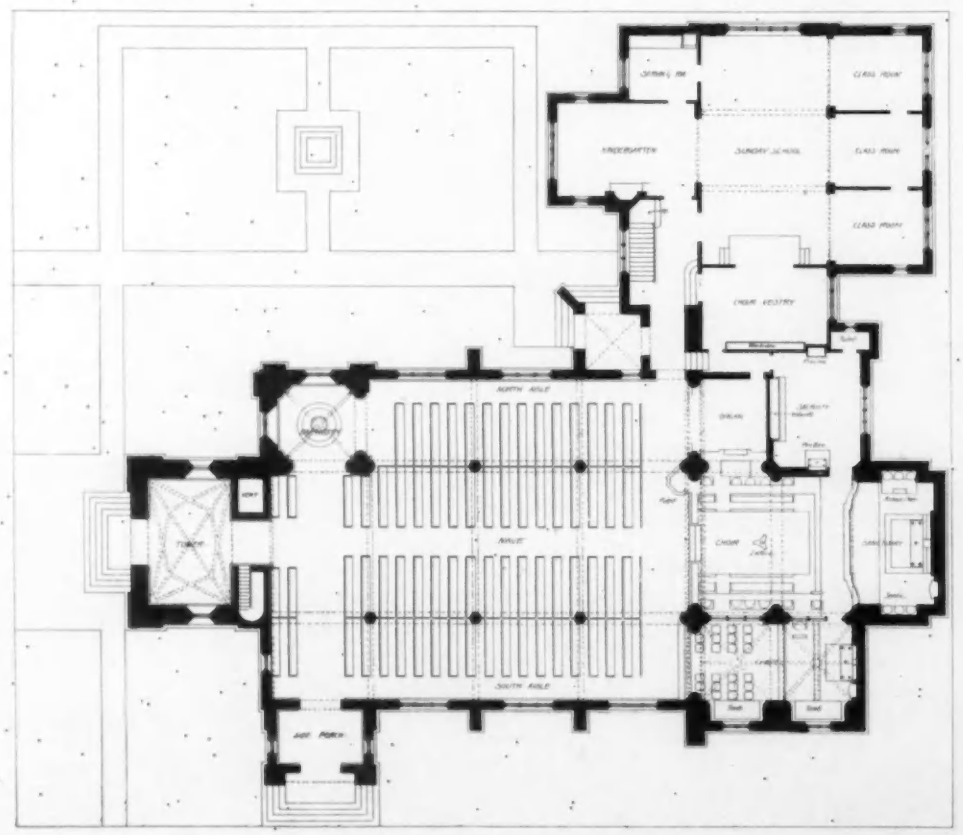
Nor is brick inconsistent with Gothic; it is precisely as appropriate as stone. Indeed, some of the brick and stone churches of Bodley, Sedding, and others in England are so altogether delightful that one would not have them stone, if this were possible. The richness and variety of color that one can obtain are peculiarly consonant with the Gothic spirit. Of course it would be absurd to design a church for stone and then build of brick: the two materials need different treatment, but as a material brick is perfectly proper; indeed, the architect who loves Gothic must delight in it and accept it with enthusiasm.

The church under consideration is for an Episcopalian society: assuming that it is to be built in the temperate, not the subtropical, portion of the United States, it must be Gothic in style, for this belongs to the Church by creation, association, genius, history, everything. It is to be a modern church, however, in a modern State; it is for the devotional uses of a power immutable in essentials, though infinitely mobile in its adaptability. For these reasons the Gothic cannot be archæological: it must be mobile and vital, willing to borrow from any source so long as the material can be assimilated. Gothic is less a style than a motive; it is the architecture of imagination, poetry, personality, healthy, all-around living. It is not a system of vaults, arches, and buttresses, but an ideal.

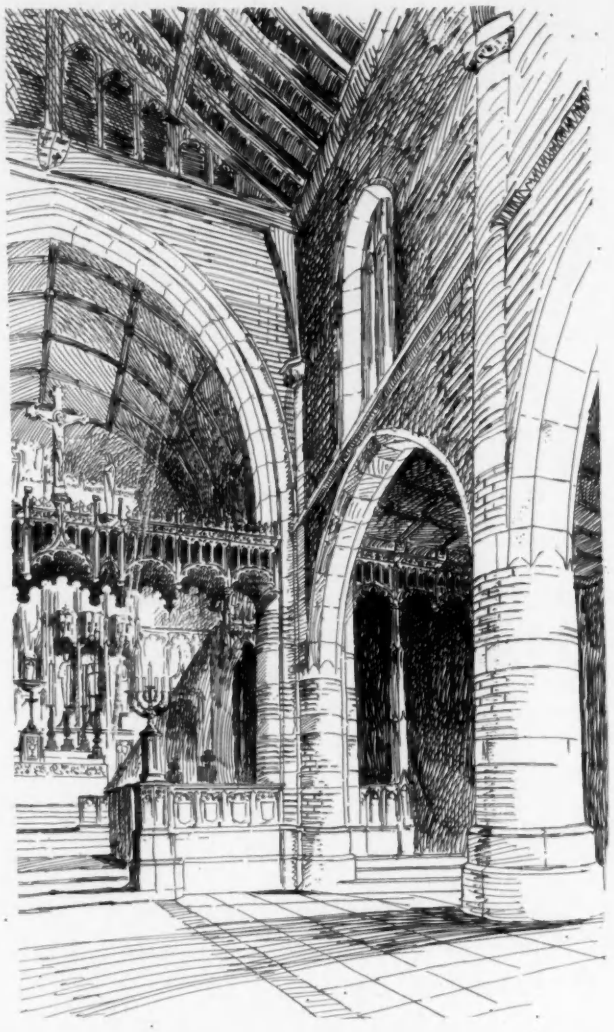
Certain ways of obtaining definite ends must be adhered to simply because they have proved themselves the best, and because they give the optical note of historic continuity. For example, the high, long, narrow nave with aisles separated by piers and arches. This is one of the architectural notes of Catholicity, and not only gives the best effects of light and shadow, mystery and awe, but the best acoustics as well. A church is a preaching place only in its secondary aspect, and therefore no essentially religious quality can be sacrificed to it.

Again, the exterior culminates in a big, lofty tower rising above all its surroundings. This is at the west end, where it belongs, for the church is not large enough for a central tower and transepts.

The plan hardly needs any explanation, for the nature of the material does not affect it in the least. With the exterior the case is different. Where brick is used it seems to be necessary that the masses should be simpler, the projections less, the surfaces plainer than in the case of stone. Thin, deep buttresses justify themselves in the latter instance, but in the former, broad, shallow piers seem better: this is probably due to the fact that the units of construction are so small that they require space to give them apparent stability and dignity. Stone requires delicacy of treatment and elaboration of parts for its highest effects: brick demands simplicity, bigness, breadth of handling.



For the exterior the materials are good, hard-burned brick, laid up in Flemish bond with quarter inch joints of white mortar; the trimmings are of warm gray terra-cotta. For the interior the materials are



gray terra-cotta, and brick of the same color, irregular in form and rough of surface, if such is to be obtained. Brick could be used for inside work far more often if only the manufacturers would not make it so uniformly clean, smooth, and faultless. A warm gray brick as rough as the common red would be a boon if only it were on the market. The woodwork is of black oak, the floor of gray terra-cotta tiles.

Such a church as this could be built for the sum specified; in stone it would cost half as much again. With good materials and carefully studied design it could be made thoroughly ecclesiastical and permanently durable. Brick of fancy colors would spoil it at once, and the same would be true if the terra-cotta were white, red, or yellow. Gray it must be, and as dull in surface as possible.

There is a great future for brick as an ecclesiastical building material in this country if only its limitations and conditions are recognized. Brick it is and brick it must remain. It is not to be used like stone, but for what it is. In certain ways style is the result of material and must develop from it. As I have said before, Gothic is less a style than an idea, and it is an idea that can express itself in one material as well as in another. The manner only will be different, the motive remains always the same.

Fire-proofing.

MIXTURES OF CLAY AND SAWDUST.

THEIR WEIGHTS AND ULTIMATE RESISTANCES.

TO obtain some accurate data regarding the weights after burning of various mixtures by volume of clay and sawdust, the following specimens were carefully made and burned, which gave some interesting results. The clay used was from the Raritan Hollow and Porous Brick Company, and represented fairly well the average clay used for fire-proofing in that vicinity. No analysis was made, however. Starting with pure clay and water, the following mixtures were made: —

BY VOLUME.

No. of specimen.	Per cent. sawdust.	Per cent. clay.
0	0	100
1	10	90
2	20	80
3	30	70
4	40	60
5	50	50
6	60	40
7	70	30
8	80	20

Six cylindrical shaped blocks of each mixture were then made by means of a small hand press, and compressed with about 200 lbs. per square inch. The No. 8 mixture had the greatest amount of sawdust that could be held together. After being thoroughly dried in an oven, they were then "burned" in a gas blast furnace, the temperature therein being maintained as near as possible at 2000 degs. F. (about the melting point of copper). Specimens Nos. 0, 1, 2, 3, which were in a slightly hotter part of the furnace, were removed after four hours and fifteen minutes, parts of their surface being slightly vitrified. Specimens 4, 5, 6, 7 were removed fifteen minutes later, and were also near the point of vitrifaction on the surface. Specimens of No. 8 did not hold together, and were broken when removed from the furnace. It would appear as though the difference in time of burning for different mixtures in blocks of equal size was nil; however, on a large scale conditions are so different that the time of burning may vary. Nevertheless, it would seem that if blocks can be burned on a small scale in four and one-half hours, that kilns that require from ten to forty hours could be improved.

The specimens after burning were carefully weighed, and their respective volumes ascertained by displacement (fine sand being used), from which the following weights per cubic inch were obtained: —

No. of specimen.	Weight per cubic inch [in lbs.].	Weight per cubic foot [in lbs.]
0	.0845	146.01
1	.0808	139.62
2	.0713	123.20
3	.0645	111.45
4	.0596	102.98
5	.0474	81.90
6	.0371	64.10
7	.0244	42.16

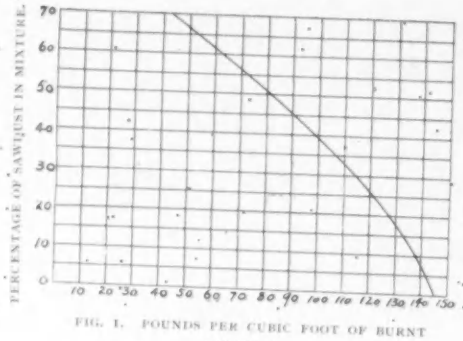


FIG. 1. POUNDS PER CUBIC FOOT OF BURNT MIXTURE.

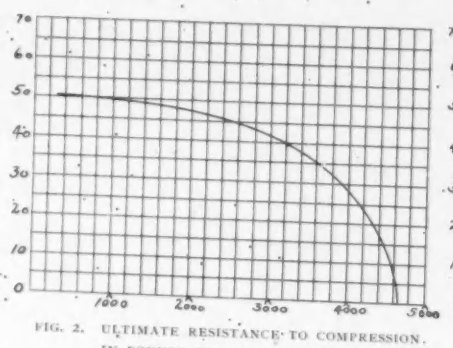


FIG. 2. ULTIMATE RESISTANCE TO COMPRESSION, IN POUNDS PER SQUARE INCH.

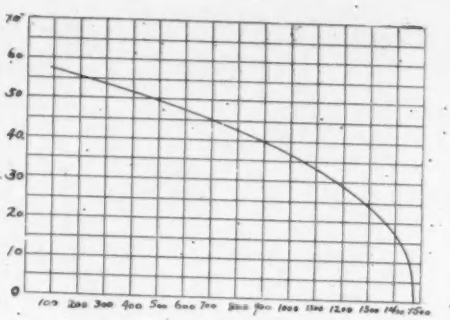


FIG. 3. ULTIMATE RESISTANCE TO SHEARING IN POUNDS PER SQUARE INCH.

Fig. 1 shows graphically the relation between the percentage of sawdust in the mixture and the weight per cubic foot of the material when burned.

The ultimate compressive resistances graphically given in Fig. 2 and the ultimate resistance to shearing in Fig. 3 were obtained from a great number of tests made by I. M. Woolsen, E. M., of Columbia University.

PRACTICAL RULE FOR OBTAINING MAXIMUM SPANS FOR HOLLOW TILE FLAT ARCHES.

THE following is an extract from the "Laws Relating to Buildings in the City of New York," and, as will be readily understood, defines the maximum span of any depth terra-cotta arch in terms of its depth, and only its depth. The cross-sectional area, the density of the material, the type arch, vibration, setting, etc., which are of vital importance, do not figure in the law or rule.

"All brick or stone arches placed between iron or steel floor beams shall be at least 4 ins. thick and have a rise of at least 1¼ ins. to each foot of span between the beams. Arches of over 5 ft. span shall be properly increased in thickness, as required by the Superintendent of Buildings.

"Or the space between the beams may be filled in with sectional hollow brick of hard-burnt clay, porous terra-cotta, or some equally good fire-proof material, having a depth of not less than 1¼ ins. to each foot of span (changed now to 1¾ ins.), a variable distance being allowed of not over 6 ins. in the span between the beams."

Let us consider a 6 in. end-construction flat arch of as small a cross-sectional area as is practical to make, viz., 22 sq. ins.; it is just a shell without any webs. Apply the law and we get a maximum span of 5 ft. 3½ ins. Now if the arch is constructed of heavy blocks, say 62 sq. ins. per foot of arch, — this is about as heavy as can be made, — we have the same span as before, 5 ft. 3½ ins. It would certainly appear as though the rule was not applicable. The following empirical formula, which takes into account the various factors entering into the case as mentioned above, gives good practical results.

$$C \sqrt[3]{A \times D} = S$$

In which A = Cross-sectional area of an arch 1 ft. wide (in square inches).
D = Total depth of arch (in inches).
C = Constant.
S = Span (in feet).

The constant, C, is an assumed quantity and depends in a general way upon the material used, whether end or side construction, percentage of the efficient bonding material, vibration, and bending when the spans become comparatively long. It will be seen in the following appended table that the values of C are small for the smaller arches, rising gradually to the 12 in. arch and again decreasing. This is due to two of the above-stated reasons: First, the percentage of efficient bonding in the shallow arches is comparatively small, and, secondly, the susceptibility to bending and vibration in the deep arches is great: two very practical and good reasons for changing the constant as has been done. In the table, values are given for the maximum and minimum sections that are practical. The cube root of any number is readily found in any of the rolling-mill hand-books, and solving the formula for any section desired is then a simple matter.

VALUES FOR C, S, AND A.

END-CONSTRUCTION FLAT ARCHES MADE OF SEMI-POROUS TERRA-COTTA.

Depth of arch in ins.	C	Minimum section.		Average section at present used.		Maximum section.	
		A sq. ins.	S feet.	A sq. ins.	S feet.	A sq. ins.	S feet.
4	.6227	18	2.58	28	3.00	44	3.47
5	.7370	20	3.41	32	4.00	53	4.73
6	.8337	22	4.24	36	5.00	62	5.99
7	.8793	24	4.84	40	5.75	71	6.95
8	.9206	26	5.45	44	6.50	80	7.93
9	.9592	28	6.05	48	7.25	89	8.90
10	.9744	30	6.52	52	7.83	98	9.76
11	.9992	32	7.05	56	8.50	107	10.54
12	1.0045	34	7.44	60	9.00	116	11.21
13	.9921	36	7.69	64	9.33	125	11.66
14	.9822	38	7.95	68	9.66	134	12.12
15	.9748	40	8.22	72	10.00	143	12.56
16	.9609	42	8.41	76	10.25	152	12.91

The British Fire Prevention Committee, of London, whose main object is to direct attention to the urgent need for increased protection of life and property from fire by the adoption of *preventive* measures, has recently conducted the following tests: Official fire tests with partitions, official fire tests with ceilings, official fire tests with glass, experimental plain glass tests, experimental fire tests with floors, experimental fire tests with doors, official fire tests with treated wood. The results of these tests are printed in pamphlet form for distribution.

Selected Miscellany.

NOTES FROM NEW YORK.

Mr. Chas. A. Rich has planned a six-story bachelor apartment for Mr. W. H. Stearns, to cost $200,000.

Mr. Wm. Waldorf Astor, of England, will erect an eight-story store and loft building on Broadway, corner of 13th Street, from plans by Clinton & Russell, cost $400,000.

It is odd that so many of our architects have discovered during the past year that "single blessedness" is more conducive to success, or at least to personal satisfaction. Among the firms which have recently dissolved partnership are Lamb & Rich, Brunner & Tryon, Berg & Clark, and Melendy & Detwiller.

CRAIG COLONY FOR EPILEPTICS.
Carrere & Hastings, Architects.

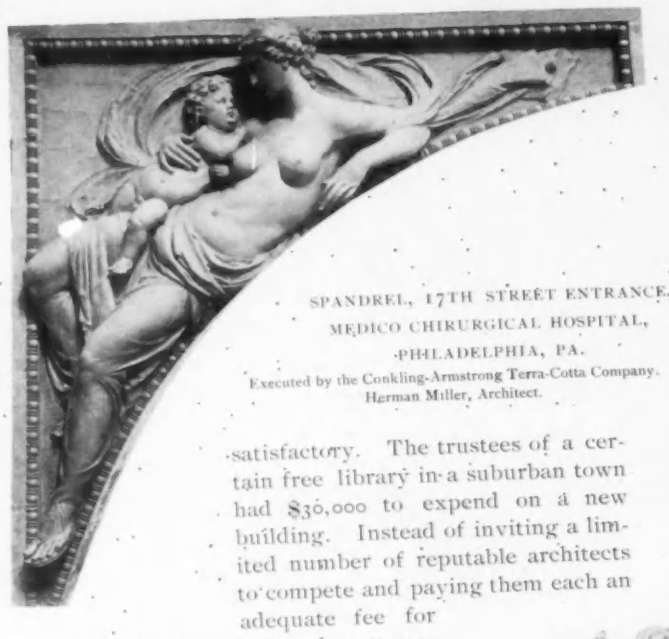
I have it on the authority of many of our contractors and manufacturers that the present high prices in building materials cannot last. There are hundreds of operations which have been laid aside, and which will stay there, until prices are more favorable. The year 1900 is bound to be a good one if manufacturers and producers will only realize this.

A bill is to be presented to Congress during its present session providing for a new up-town post-office, which is badly needed. The site most favored is in the neighborhood of the Grand Central Station. The population of New York, taking the city in its largest sense, is now grouped about this point. Here is to be the great hotel and apartment-house district, and here will be gathered, more and more, the various kinds of businesses that make the largest use of the mails.

The trustees of a large church in Brooklyn have decided to spend $125,000 upon a new building. A daily paper announced that the committee spent last evening examining plans, seven sets having been sent in. They also announce that they will be very glad to receive further plans for the next three weeks. Would any carpenter or mason submit bids under these conditions? What are we coming to? We New Yorkers have read with interest the "Rules for Practice" laid down by the Boston Architectural Club, so of course Boston is free from the troubles which trouble us. We hope so.

During the past week plans have been filed for one hundred and seventy-two buildings, to be erected in Manhattan and Bronx Boroughs alone, the total cost of which exceeds $4,000,000. This, it is needless to say, is an unusually large amount of business to be filed during so short a space of time. A great majority of these buildings are tenements, and the rush to file plans is explained by the fact that during this month the new code goes into effect, which is not nearly so favorable to tenement building as the present building law. Of course all the buildings for which plans have been filed will not be built at once and many not at all.

On behalf of at least some of the architects of New York THE BRICKBUILDER is requested to register one vigorous kick to head the list for the new century. Probably nothing is hurting the profession so much now, as the "open competition," which has become a nuisance, and in fact an octopus gathering in the best of our architects who are unable to resist its glittering eye and suave manner. Of the many which have come to my notice recently, I would like to call attention particularly to two which, as in nine cases out of ten, are bound to be un



SPANDREL, 17TH STREET ENTRANCE, MEDICO CHIRURGICAL HOSPITAL, PHILADELPHIA, PA.
Executed by the Conkling-Armstrong Terra-Cotta Company.
Herman Miller, Architect.

satisfactory. The trustees of a certain free library in a suburban town had $30,000 to expend on a new building. Instead of inviting a limited number of reputable architects to compete and paying them each an adequate fee for their trouble, they instituted an "open competition" into which thirty architects were lured. Imagine it! Thirty architects devoting two weeks of hard work for the privilege of drawing a ticket in this lottery! The bait thrown out was as follows: First prize, $300; second prize, $200; third and fourth prizes, $100 each. Well, after two months' hard (?) work the building committee decided that not one of the designs was fit to build, but they generously distributed the prizes to those whose designs caught their eye. Now, is the "game worth the candle," and is the dignity of the profession advanced by such methods? Would any lawyer give two weeks of his time and best efforts just to have a committee pass on his ability?

ILLUMINATING DIAL, EDISON ELECTRIC BUILDING, CHICAGO.
Executed by the American Terra-Cotta and Ceramic Company.
Shepley, Rutan & Coolidge, Architects.

NOTES FROM CHICAGO.

The Chicago National Bank competition is closed, but the award has not yet been made public.

Louis H. Sullivan, D. H. Burnham, and Peter B. Wight have been chosen to represent the architects on the executive board of the Municipal Art League.

A large hotel in the lodging-house district, on the plan of the Mills Hotels in New York, is being talked of as a possibility in the near future. Something of the sort is certainly much needed in Chicago.

Local architects are not at all pleased at the intimations recently given that the five new government buildings soon to be erected in Illinois are to be designed in the office of the supervising architect at Washington. The buildings referred to are to be located at Joliet, Elgin, Streator, Freeport, and Monmouth.

Building Commissioner McAndrews has turned over to the city law department the names of five hundred owners of buildings who have not complied with Section 198 of the building code, requiring swinging or revolving sash above the second story, except where safe balconies are provided. Final notices have also been sent to many violators of this excellent ordinance for the safety of window washers.

Charles A. Coolidge, S. S. Beman, and W. Carbys Zimmerman constitute the jury of award in the medal competition instituted by the Illinois Chapter, A. I. A., for the benefit of the Architectural Club. The problem this year is a "Municipal Court" extending along the lake front on Michigan Avenue, from Jackson Boulevard to Randolph Street, and involves the designing of a city hall, a building for the board of education, and a proposed extension to the Art Institute.

The usual holiday dulness in new building operations is greatly increased by the continued uncertainty as to the outcome of the pending negotiations between the arbitration committees representing the employers and the trades unions. The demands of the unions have grown to be so unreasonable and tyrannical that no very great hopes are cherished by the unrepresented but much interested building public for an early and satisfactory adjustment of existing differences between employers and labor.

The *Construction News* gives the following account of an interesting case which was tried here recently before Justice Underwood:—

"Henry G. Wright, a member of the Chicago Architects' Business Association, brought suit against Nicolay Hasselo, an owner, and Charles J. Cross, a contractor, for architect's fees for plans for a house, which had been erected in Rogers Park from copies of Mr. Wright's plans

PILASTER CAP, HOTEL FOR WHITE ESTATE, 38TH STREET, NEW YORK CITY.
Executed by the Atlantic Terra-Cotta Company.
Barney & Chapman, Architects.

HALL.

LIBRARY.

HOUSE AT EAST MILTON, MASS.
McKim, Mead & White, Architects.

UNIV. OF MICH.

PANEL AT SIXTH STORY, HAMILTON BUILDING, AKRON, OHIO.
Made by Northwestern Terra-Cotta Company.
Mead & Garfield, Architects.

for another dwelling in the same vicinity, for a man named Ryan. The architect had communicated with Hasselo, as he had heard that the latter contemplated building, and admired the Ryan house.

"Mr. Hasselo did not give Mr. Wright the commission, but ultimately erected a house which was an exact duplicate of the Ryan residence. The plans of the Hasselo house were presented in court and bore the signature of the architect, R. B. Powell. A tracing of the plans of the Ryan house was laid over the plans of the Hasselo house, and they were found to coincide exactly. Changes had been made in the size of windows and the height of first story of the Ryan house after the plans had been drawn, and the figures only were changed on the plans. These changes of figures were reproduced on the plans of the Hasselo house, leaving the drawings out of scale and showing plainly that the plans had been copied. Justice Underwood gave the complainant judgment for $157.50, being equal to a commission of 3½ per cent. on the cost of the dwelling."

CARTOUCHE ORNAMENT OVER WINDOWS, APARTMENT HOUSE, WEST END AVENUE, NEW YORK CITY.
Executed in gray terra-cotta by Excelsior Terra-Cotta Company.
Thorm & Wilson, Architects.

IN GENERAL.

The Washington Architectural Club, now numbering somewhat over seventy members, has been admitted to the League.

Mr. A. L. Brockway's paper, "The Influence of the French School of Design upon Architecture," was the most fully discussed paper read at the recent convention of the American Institute of Architects.

On December 4 a dinner of fifty covers was given in the assembly room of the T Square Club to the visiting

DETAIL, SULLIVAN BUILDING, ST. LOUIS, MO.
Made by Winkle Terra-Cotta Company.
Isaac S. Taylor, Architect.

members of the exhibition committee. Tables were arranged in the form of a large T square, from the head of which Adin B. Lacey, president of the club, presided.

Work upon the circuit of exhibitions to be held in Philadelphia, New York, Chicago, St. Louis, Detroit, Cleveland, and Pittsburgh was reported well advanced. Beside an unusual quota of entries from the United States, over one hundred have been received from England, a large number from Paris, and a few from Canada.

The largest area occupied by a single private mansion in New York will be the residence of Andrew Carnegie, which will occupy the entire Fifth Avenue front between 90th and 91st Streets. From the designs prepared by Babb, Cook & Willard, we have every reason to anticipate a stately establishment equaling any in Paris or London.

At a recent executive board meeting of the Architectural League of America, held in Pittsburgh, a national

committee upon municipal improvement and civic embellishment was appointed. It is composed of nine men from eight different cities, who have made this subject a special study, all of whom are willing and anxious to be consulted by any who may desire to get up municipal art societies.

We learn from Detroit that the local architectural club has taken the initiative in organizing the Detroit Art Federation. The societies that responded to President Ropes's call are the Michigan Chapter of the American Institute of Architects, the Water Color Society, the Art Association, and the Keramic Club. It is to be hoped that many more such alliances will be formed throughout the country.

PILASTER CAPITAL, POSNER BUILDING, BALTIMORE, MD.
Work executed by the New York Architectural Terra-Cotta Company.
Charles E. Cassell, Architect.

DETAIL, RITTENHOUSE APARTMENTS, PHILA., PA.
Made by Perth Amboy Terra-Cotta Company.
Willis G. Hale, Architect.

NEW CATALOGUES AND CALENDARS.

"THE STORY OF THE HOUSE. Being some suggestions in brickwork from the catalogue of O. W. Ketcham, whose office is in the Builders' Exchange, of the city of Philadelphia, in the State of Pennsylvania. Illustrated and arranged by Henry Loomis Curtis."

"The Story of the House" is a title given to an extremely interesting catalogue of various forms of brick and terra-cotta. Advertising has surely become one of the fine arts, and this volume takes rank among the best of its kind. The first half is occupied by a number of clever sketches illustrating quotations from the poets, having special reference to such portions of buildings as are capable of being constructed of brick. In the conception of these sketches Mr. Curtis has created some particularly pleasing designs that harmonize very effectively with the poetic character of this portion of the book. The catalogue is divided into three parts: part one as described above; part two devoted to molded brick forms, of which drawings are given of a hundred or more patterns; part three, which treats of terra-cotta fire-proof materials. In this last there are illustrations of the various arches commonly employed in burned-clay fire-proof construction, also of partition blocks, girder coverings, furring tiles, etc. The binding of this work is in the style of the last century, being of a buff parchment color, with the title "The Story of the House" set in a design representing a rough hand board, such as might have been used for bulletin purposes in the days of the Pilgrim fathers. As we have stated above, this work is a radical departure from the general form of trade catalogues. We feel that the architectural profession will be much interested in its contents and welcome its originality. The only disappointment about the book is that there is not a great deal more of it.

We are in receipt of the advanced sheets of a catalogue shortly to be issued by the Tiffany Enameled Brick Company, descriptive of the shapes, shades, etc., of the enameled brick which they manufacture. This booklet is published in a convenient pocket size, and is of attractive appearance. In the arrangement of contents care has been taken to make all matter brief and concise, and yet to include all essential information possible to give in a catalogue concerning the use and purpose of this product as a building material. Following the introductory pages are tables of the dimensions of their various brick, and diagrams are shown of cross-sections of the principal shapes, with a schedule of approximate costs of same. Explanatory notes of considerable interest accompany these tables. We are glad to recommend this booklet as a work of reference very desirable to architects and others interested in the use of enameled brick. Parties desiring copies should communicate with the Tiffany Enameled Brick Company, Marquette Building, Chicago, Ill.

The Winkle Terra-Cotta Company, St. Louis, Mo., have issued a most attractive calendar for 1900. The subject of the illustration, "The Goddess of Plenty," is evidently taken from a photograph of a terra-cotta panel made by this company. The exquisite grace and beauty of the model-

ing and the artistic conception of the design are well worth more than a passing mention.

James A. Davis & Co., Boston, Mass., distributors of high-grade American Portland cements, have issued a unique and pleasing calendar, the subject illustrated being "Tiny Tim," a high-bred Boston terrier, owned by Mr. Davis.

CURRENT ITEMS OF INTEREST.

The Celadon Terra-Cotta Company, Ltd., are furnishing the roofing tile for the following buildings: Library at Wayland, Mass., Cabot, Everett & Mead, architects; summer house, Thompson, Conn., for Norman B. Ream, Shepley, Rutan & Coolidge, architects; residence for A. C. Hindekoper, Meadville, Pa., Alfred H. Thorp, architect; residence, San Francisco, Cal., for N. Clark & Sons.

Edward R. Diggs & Co., Baltimore, Md., are furnishing the brick for the following buildings: The new library building, Baltimore, Md., Joseph Evans Sperry, architect; the Emerson Building, Baltimore, Md., William McLane Goodrich, architect; the Guardian Trust Company's Building, Baltimore, Md., Baldwin & Pennington, architects. This last operation will require over 120,000 impervious light front brick.

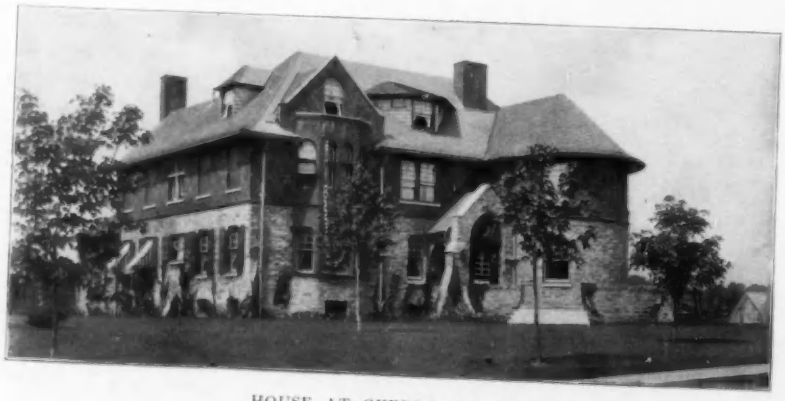
The Atwood Faience Company, Hartford, Conn., has recently been reorganized with a liberal working capital, and the plant is now running under new management. The company announce that they are in position to fill all orders promptly, and will be glad to render estimates on any work in their line. They are also introducing in the market several new and beautiful effects in dull finished tile.

The next convention of the National Brick Manufacturers' Association will be held at Detroit, Mich., February 5 to 10, and we earnestly recommend those among our readers who are manufacturers' agents in burned-clay products to make an effort to be present. We particularly designate agents, because, as a rule, this important faction of the clay material business does not attend these conventions, and we believe that it would be to their advantage as well as to that of the industry as a whole if, in these assemblies, the market end of the clay business was more fully represented by their presence.

The important part played both in the appearance and durability of a building by architectural terra-cotta is now firmly established. The year just closed has witnessed the success which can be obtained in this line where the article manufactured is of a high standard of quality. We refer to the Atlantic Terra-Cotta Company, of 287 Fourth Avenue, New York City. This company has been operating for hardly more than a year, but by the character of its work has now an established position in all the principal cities of the East.

ARCHITRAVE CROWN, APARTMENT HOUSE, NEW YORK CITY.
Executed by the New Jersey Terra-Cotta Company.
George F. Pelham, Architect.

Its success, naturally, was to have been expected, as, in its organization, the principal departments were placed in charge of experienced men, who had risen to high positions in the larger companies. Among the principal contracts made by the company are the following: Terminal Hotel, Boston, Mass., Arthur Bowditch, architect, George A. Fuller Company, contractors; Albany Building, Albany, Beach, and Lincoln Streets, Boston, Mass., Peabody & Stearns, architects, Norcross Bros., contractors; apartment house, 12th and Spruce Streets, Philadelphia, Pa., Yarnell & Goforth, architects, Dorsey & Smith, contractors; police and fire house, Carpenter and 7th Streets, Philadelphia, Pa., Hazelhurst & Huckle, architects, J. E. & A. L. Pennock, contractors; valve house, Allegheny Avenue, Philadelphia, Pa., Wilson Brothers & Company, architects, J. E. & A. L. Pennock, contractors; residence, Rhode Island Avenue, "N" Street and Scott Circle, Washington, D. C., Heins & La Farge, architects, George H. Turton & Co., contractors; passenger station, Pittsburgh & Lake Erie Railroad, Pittsburgh, Pa., J. A. Atwood, chief engineer, Henry Shenk, contractor; residences, Fifth Avenue, New York City, for W. W. Astor, Clinton & Russell, architects, John Downey, contractor; White Estate Hotel, 38th Street and Seventh Avenue, New York City, Barney & Chapman, architects, Thompson & Adams, contractors; apartments, Central Park West and 92d Street, New York City, George Keister, architect, Patrick Norton, contractor; International Bank Building, Broadway and Cedar Street, New York City, Bruce Price, architect, George A. Fuller Company, contractors. The company doubled the capacity of its plant during the last six months, and the kiln which it has just completed is the largest one in the East. It is a pleasure to record the success which this company has met with and which it has justly merited.



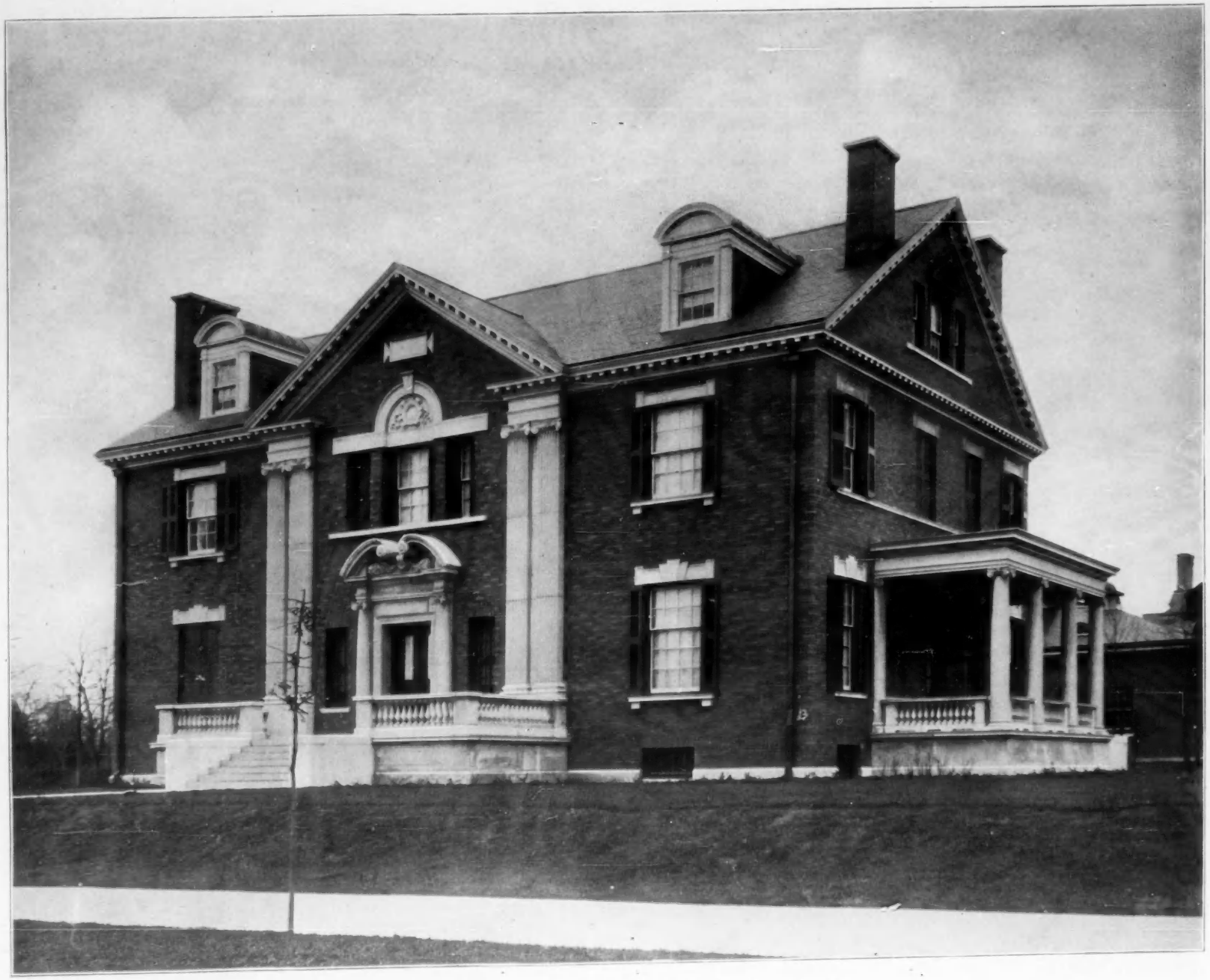
HOUSE AT OVERBROOK, PA.
David Knickerbocker Boyd, Lawrence Visscher Boyd, Associated Architects.

REAR VIEW.

HOMES FOR AGED PEOPLE, CAMBRIDGE, MASS.

STICKNEY & AUSTIN AND WILLIAM E. CHAMBERLIN, ASSOCIATED ARCHITECTS.

UNIV. OF MICH.



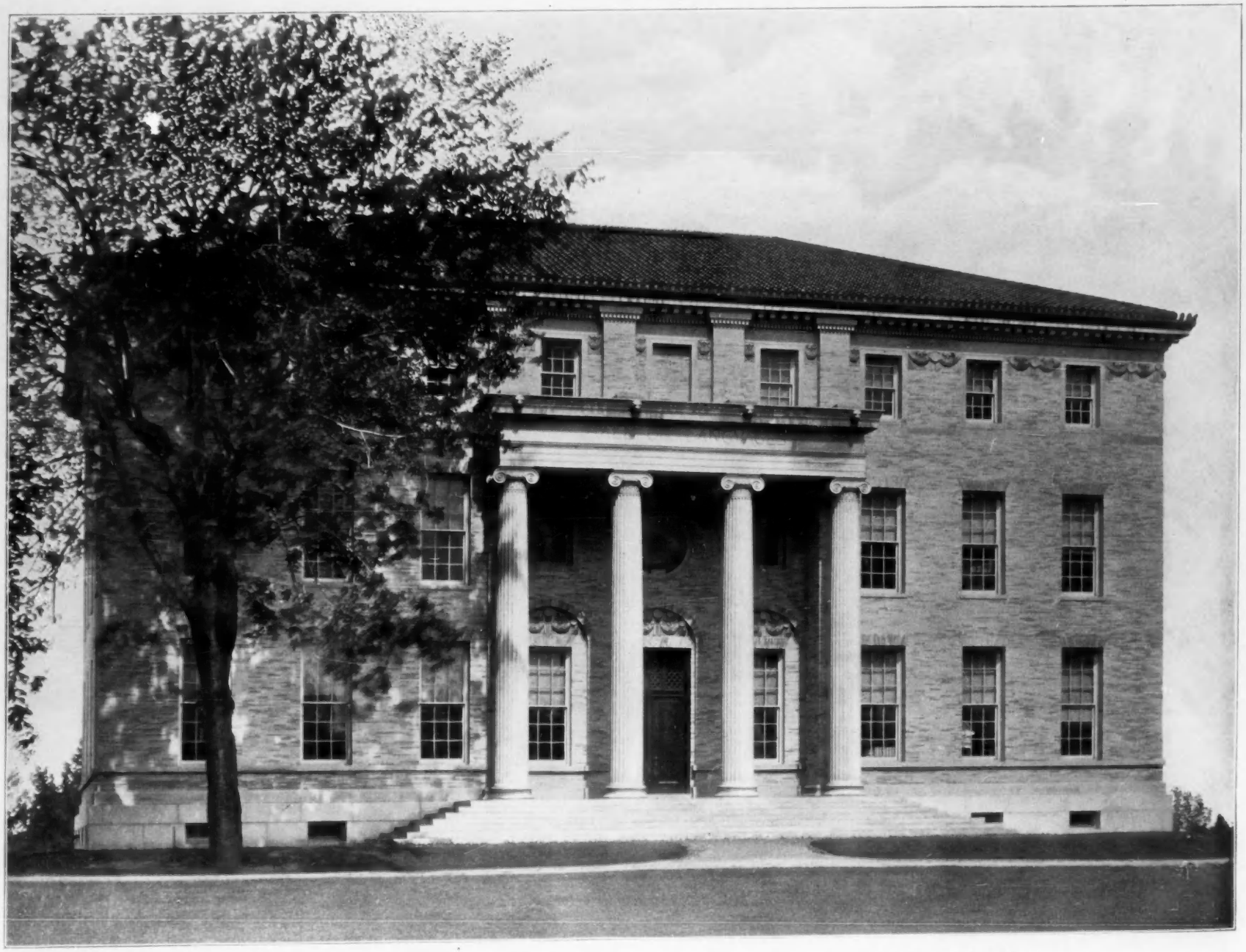
RESIDENCE, WASHINGTON TERRACE, ST. LOUIS, MO.
EAMES & YOUNG, ARCHITECTS.

HOUSE AT EAST MILTON, MASS.

McKim, Mead & White, Architects.

STATE OF MICH.

RESIDENCE, WASHINGTON TERRACE, ST. LOUIS, MO.
EAMES & YOUNG, ARCHITECTS.

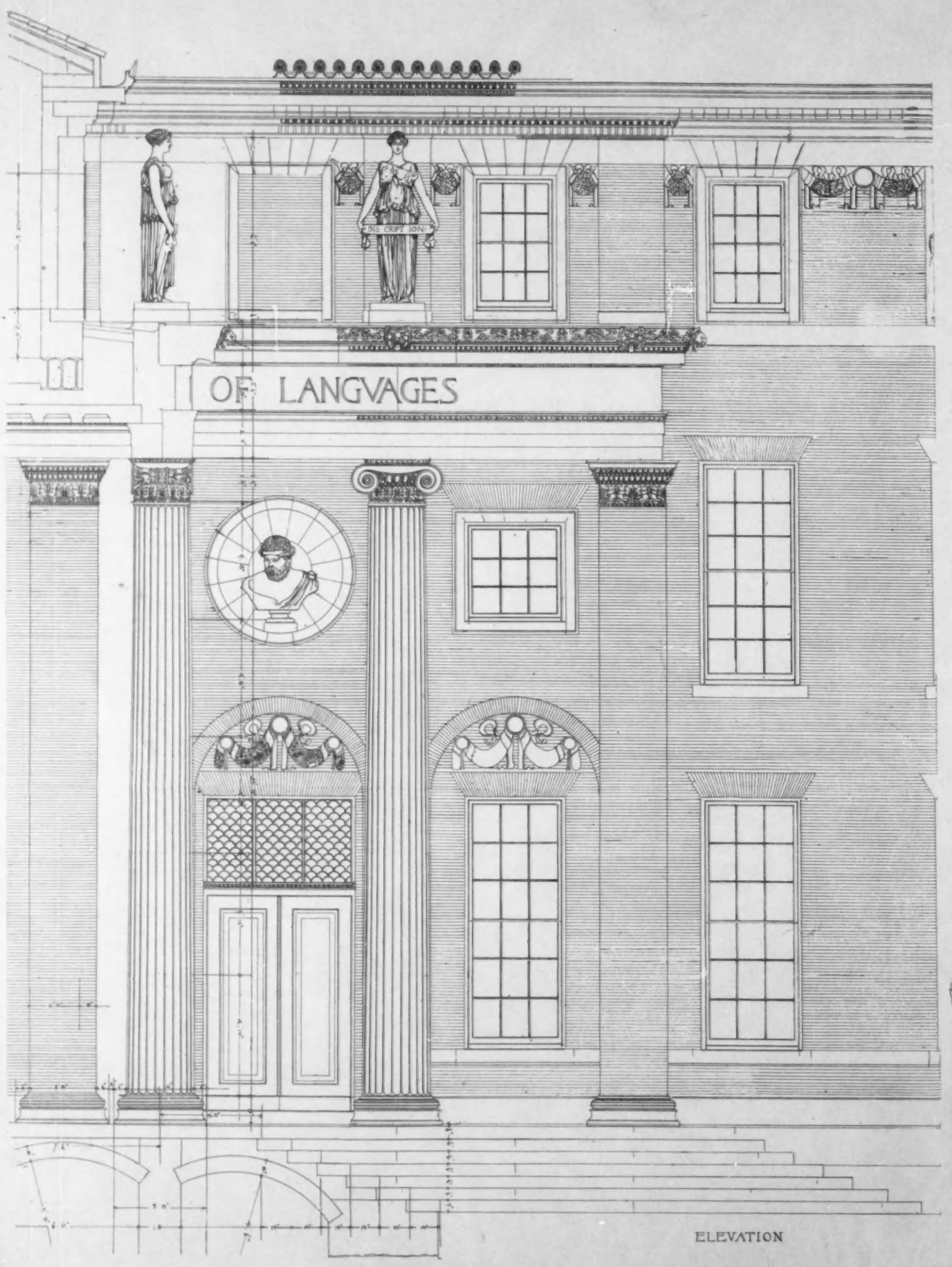


HALL OF LANGUAGES, UNIVERSITY OF NEW YORK, UNIVERSITY HEIGHTS, NEW YORK CITY.
McKIM, MEAD & WHITE, ARCHITECTS.

FRONT VIEW.

HOMES FOR AGED PEOPLE, CAMBRIDGE, MASS.

STICKNEY & AUSTIN AND WILLIAM E. CHAMBERLIN, ASSOCIATED ARCHITECTS.



ELEVATION

DETAIL, FRONT ELEVATION.

HALL OF LANGUAGES, UNIVERSITY OF NEW YORK, UNIVERSITY HEIGHTS, NEW YORK CITY.

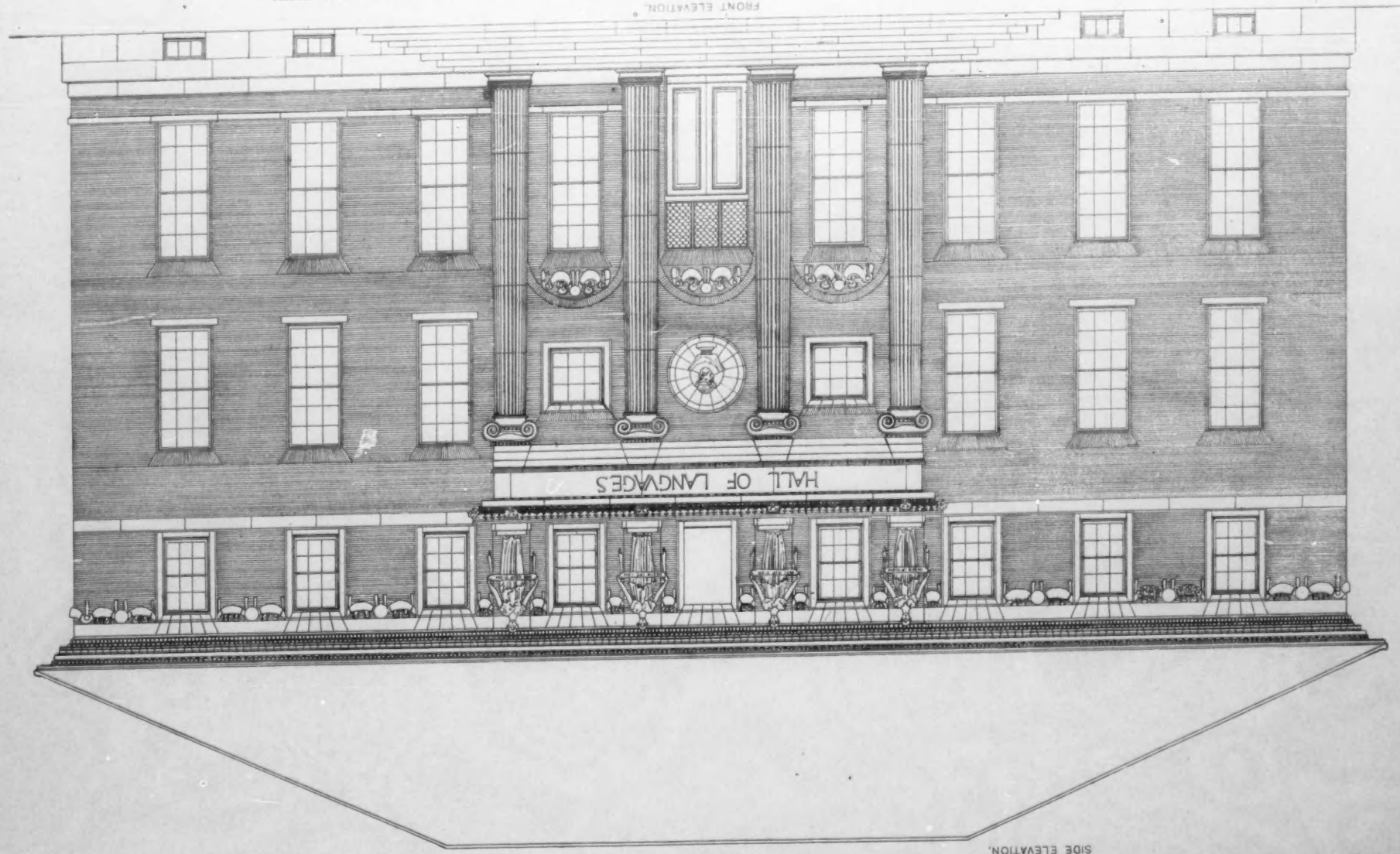
McKIM, MEAD & WHITE, ARCHITECTS.

UNIV. OF MICH.

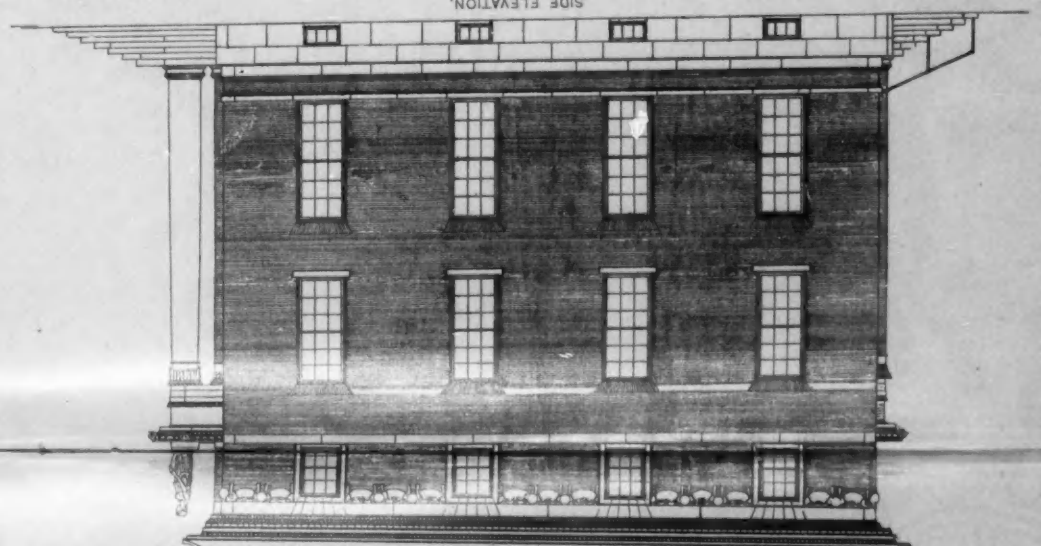
FRONT ELEVATION.

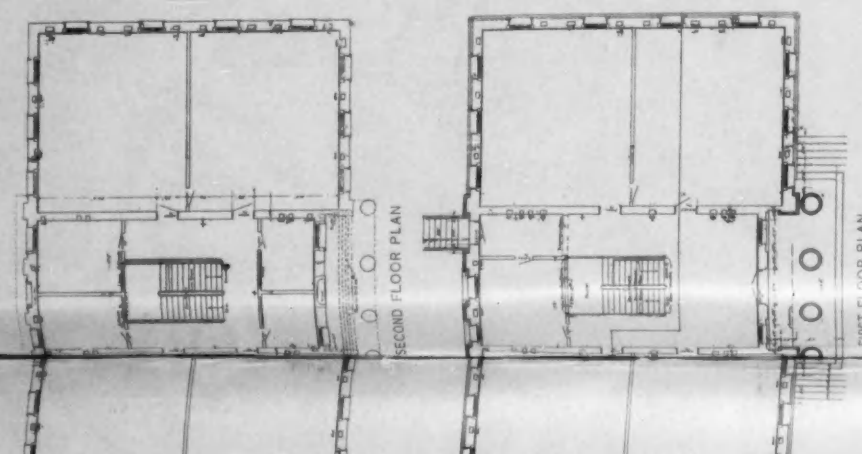
HALL OF LANGUAGES, UNIVERSITY OF NEW YORK, UNIVERSITY HEIGHTS, NEW YORK CITY.

MCKIM, MEAD & WHITE, ARCHITECTS.



SIDE ELEVATION.



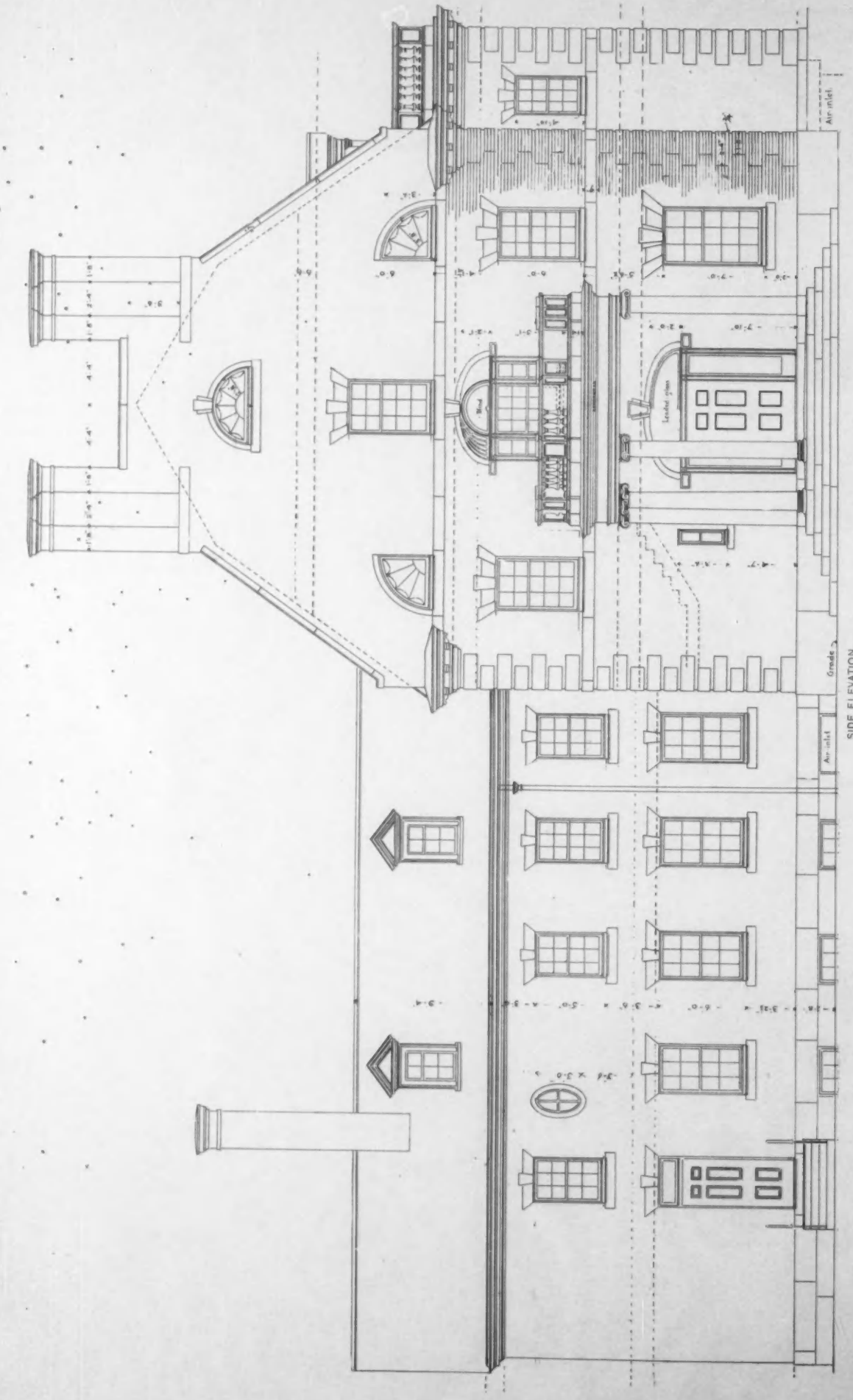


SECOND FLOOR PLAN

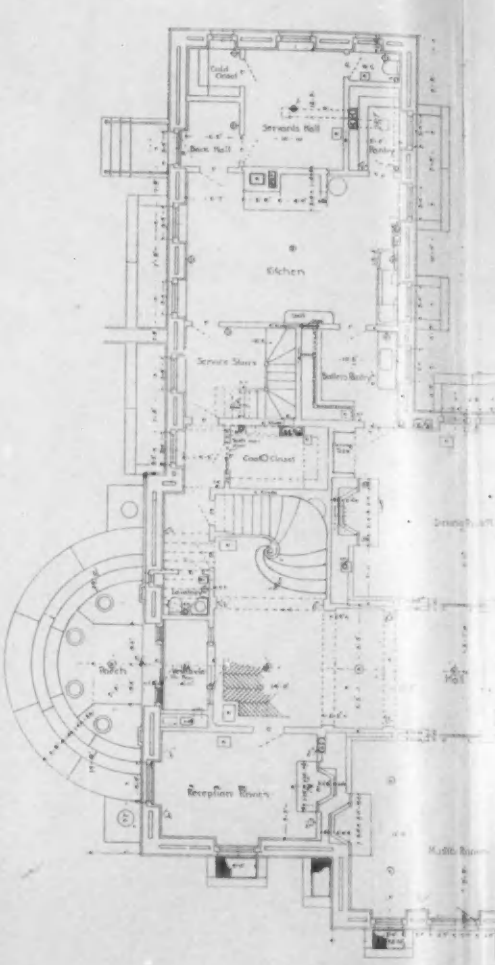
FIRST FLOOR PLAN.

BRICKBUILDER.

PLATES 1 and 2.



SIDE ELEVATION.



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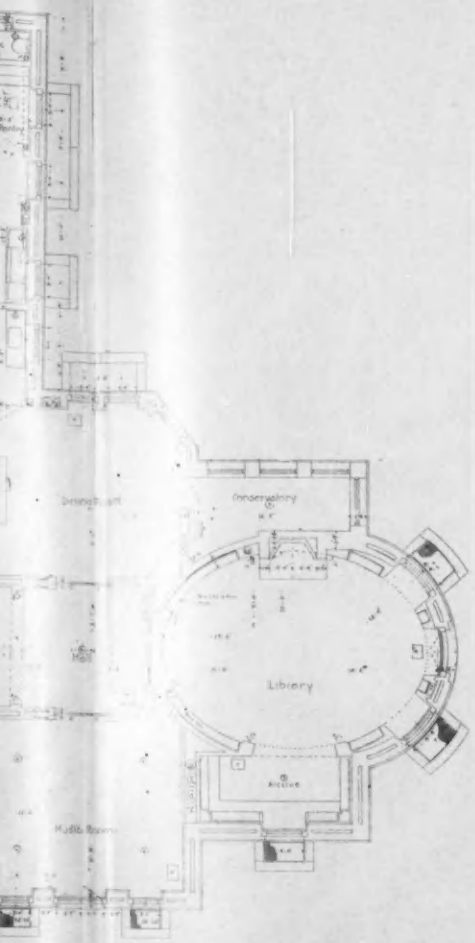
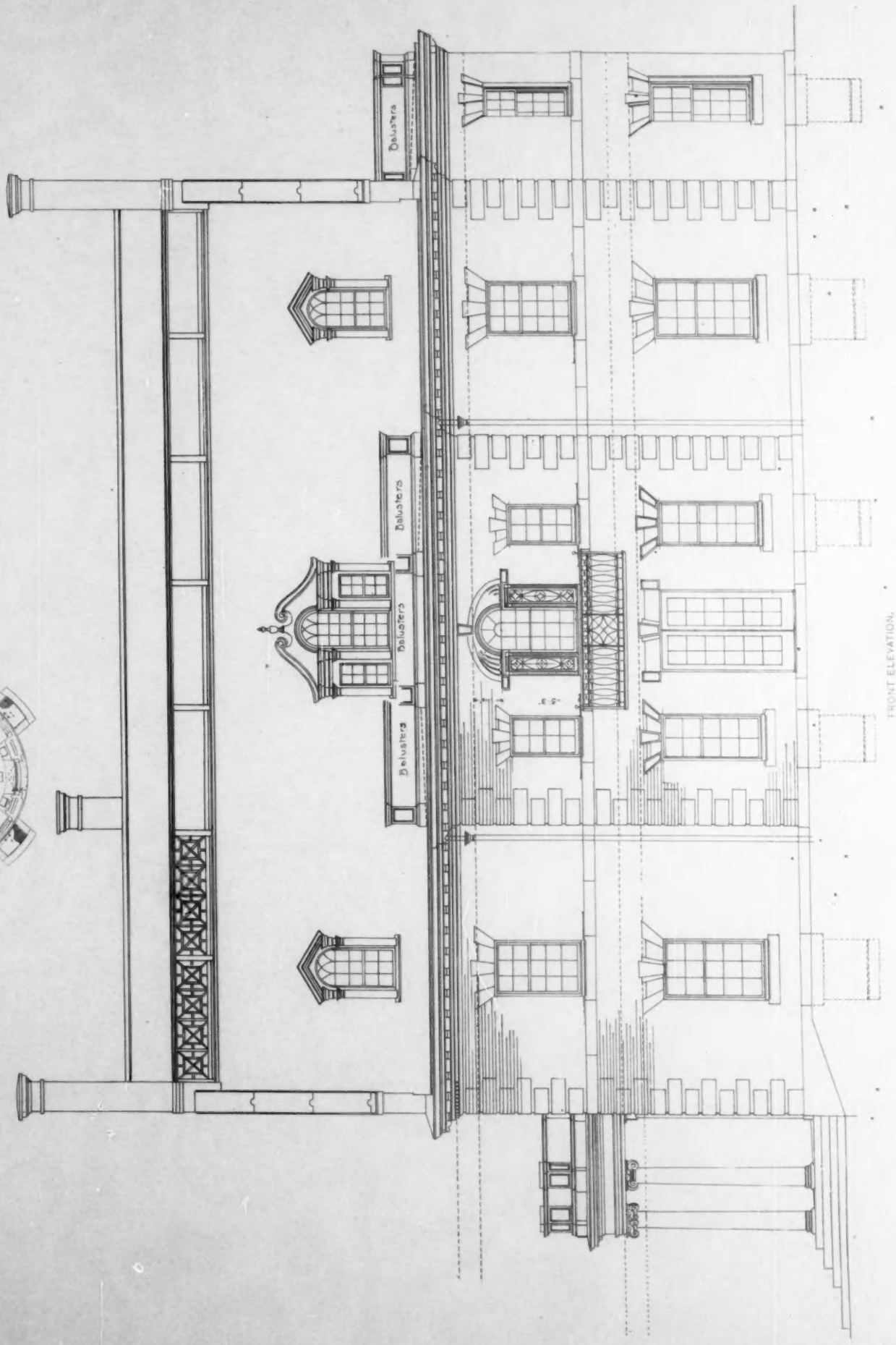
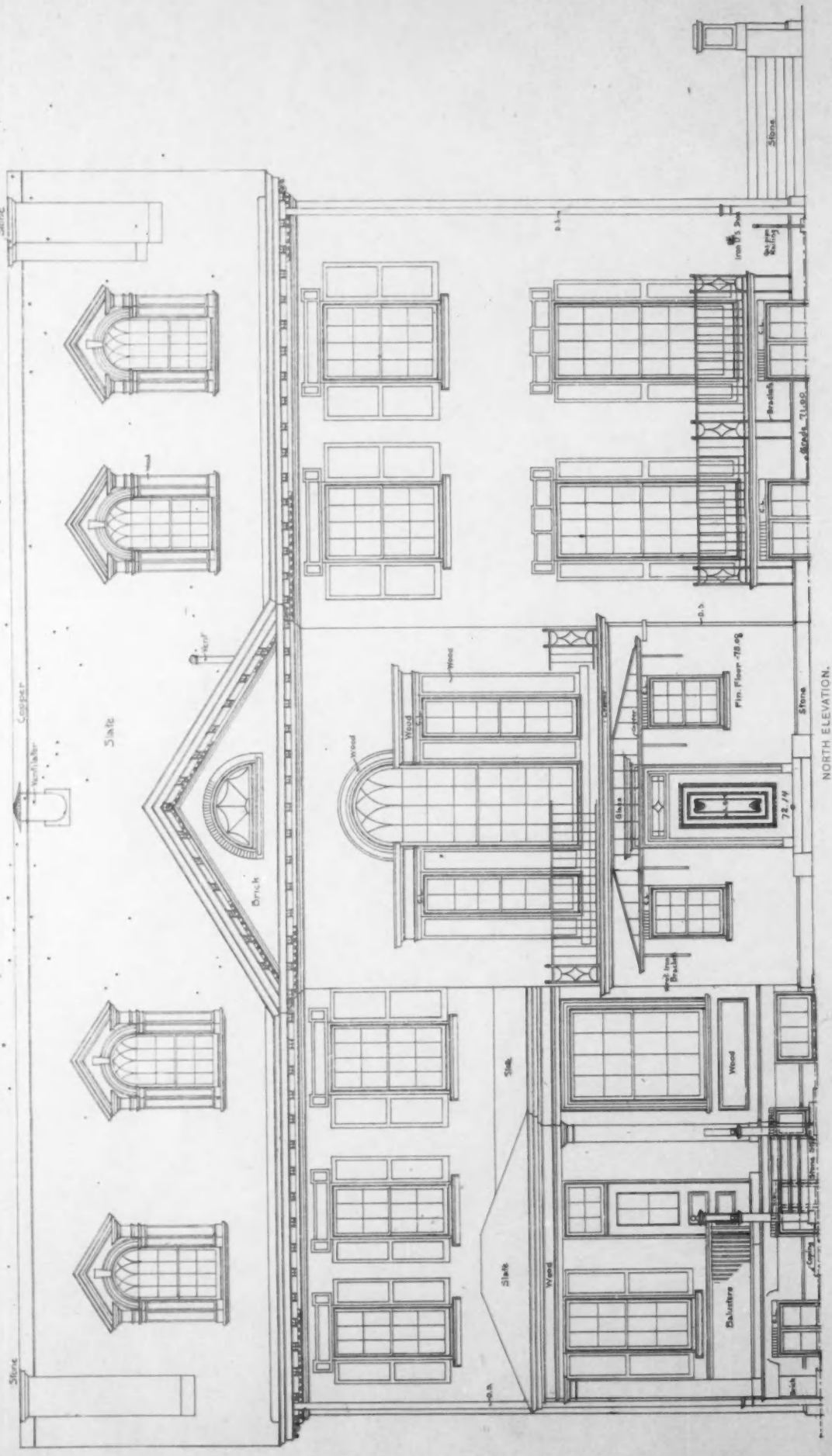


FLOOR PLAN.

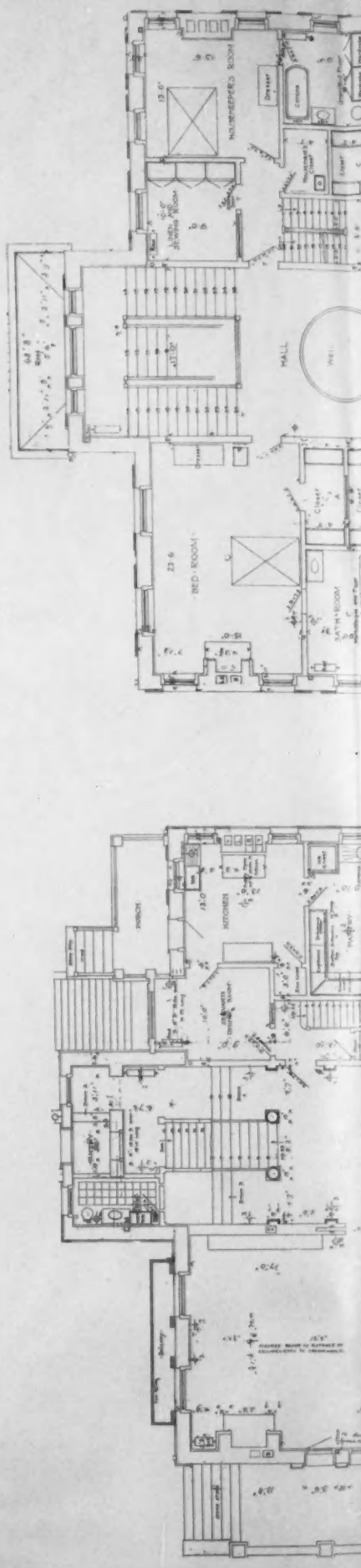


FRONT ELEVATION.

HOUSE AT EAST MILTON, MASS.
McKIM, MEAD & WHITE, ARCHITECTS.



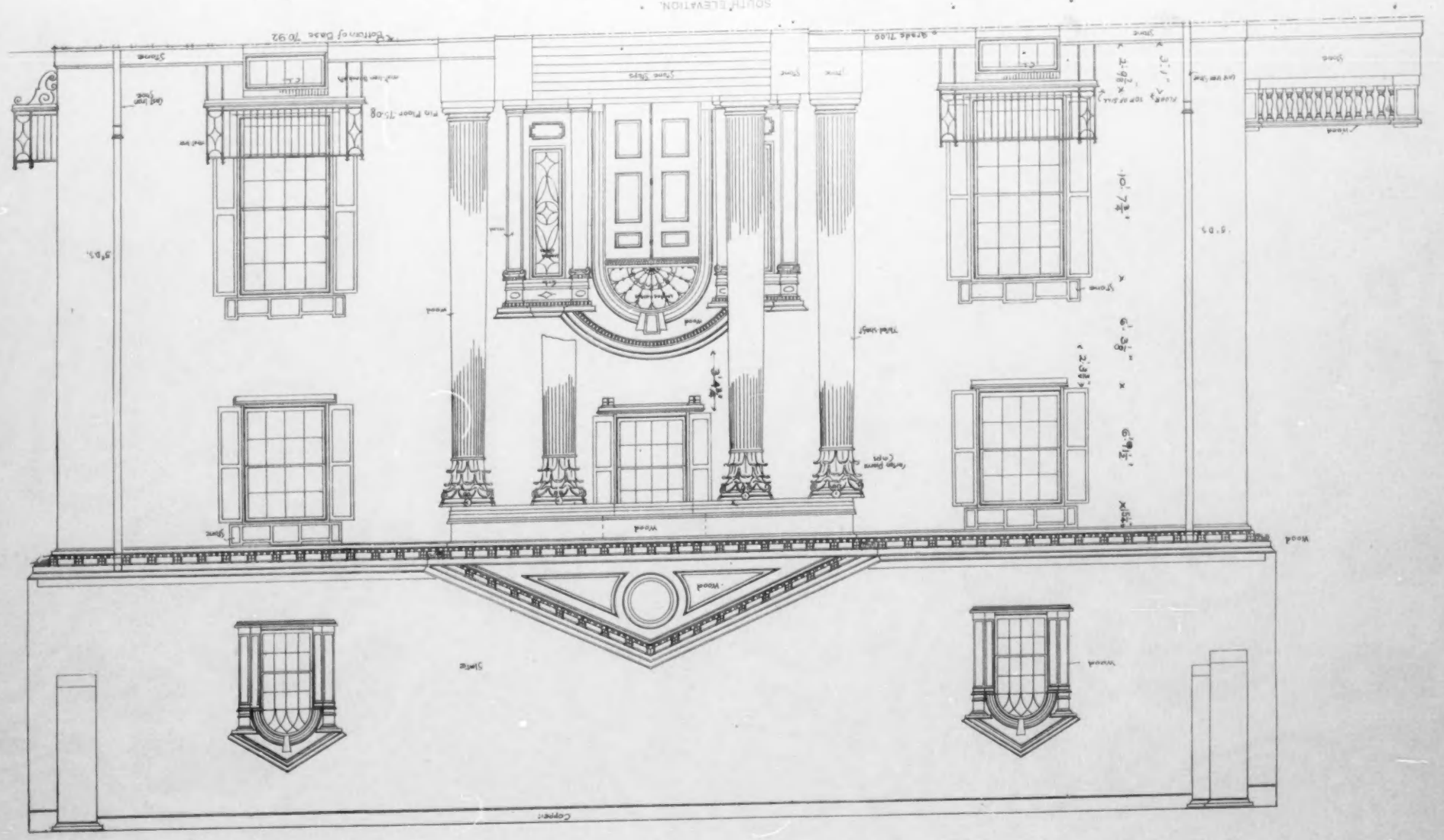
NORTH ELEVATION.



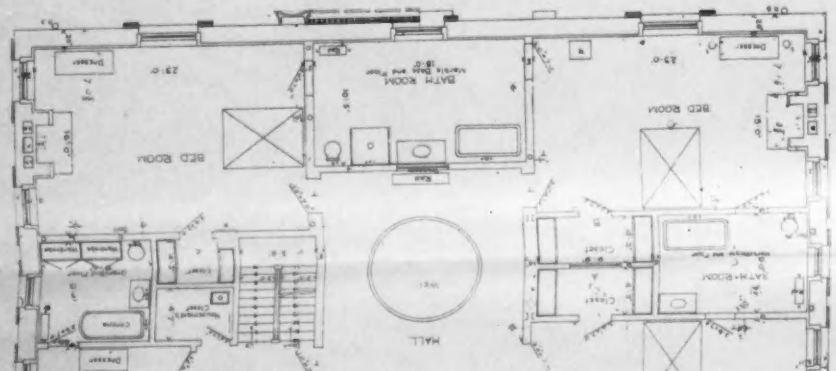
SOUTH ELEVATION.

HOUSE AT WASHINGTON TERRACE, ST. LOUIS, MO.

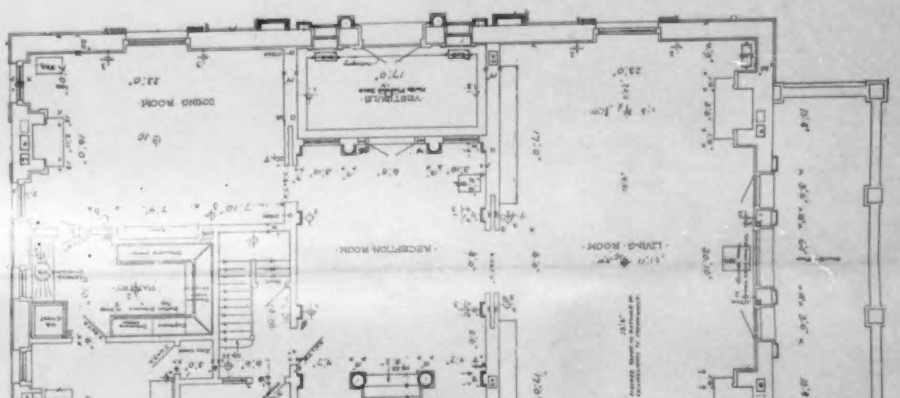
EAMES & YOUNG, ARCHITECTS.



SECOND FLOOR.



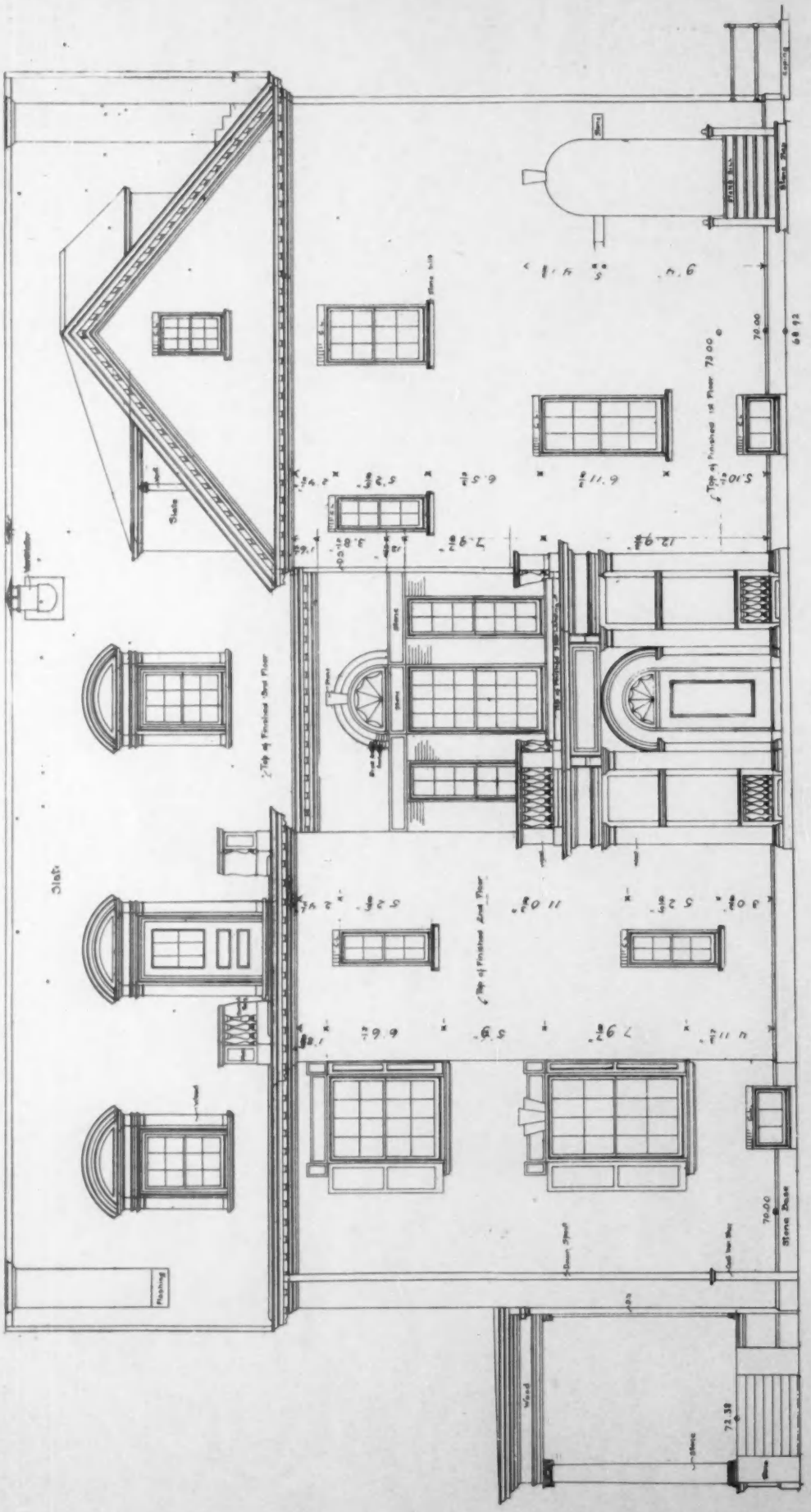
FIRST FLOOR.



AMERICAN BRICKBUILDER.

PLATES 5 and 6.

VOL. 9. NO. 1.



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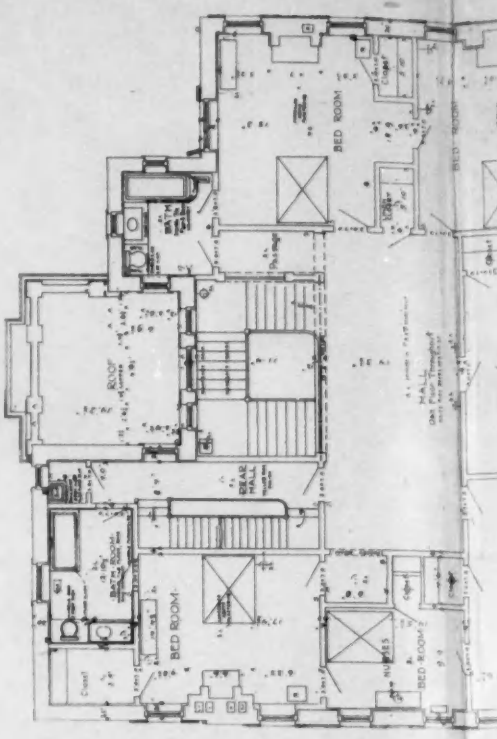
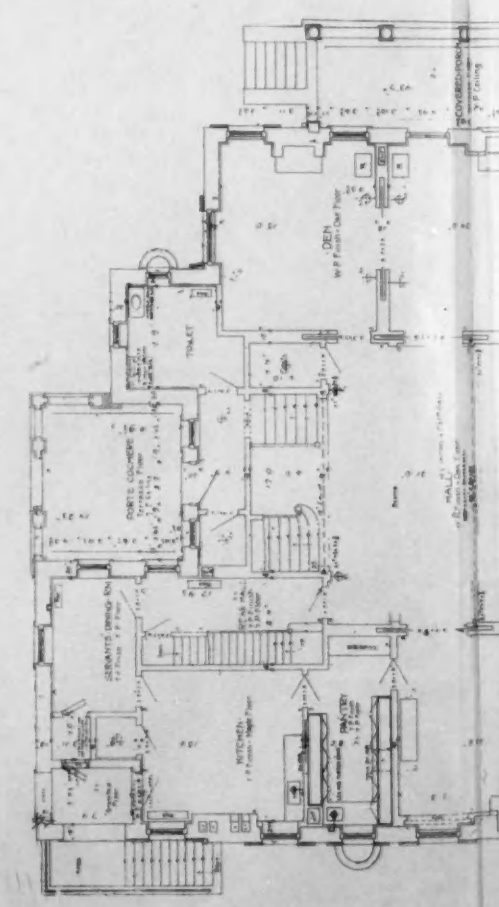
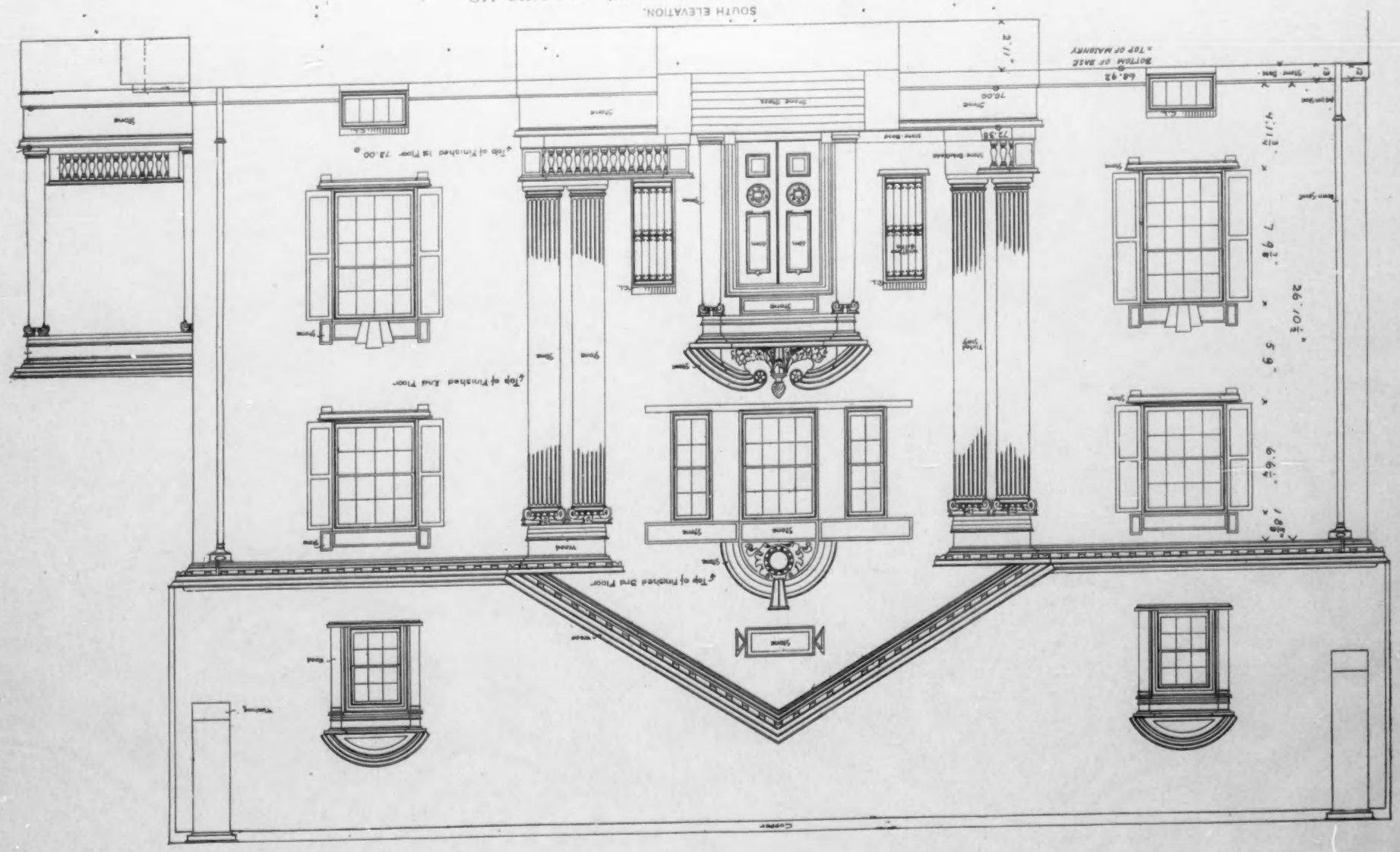




HOUSE AT WASHINGTON TERRACE, ST. LOUIS, MO.

EAMES & YOUNG, ARCHITECTS.

SOUTH ELEVATION.



ARCHITECTURAL SHEET-BUILDER.

PLATES 7 and 8.